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73D CONGRESS }  
1st Session }

SENATE

{ DOCUMENT  
No. 28 }

# FUNCTIONS OF THE DEPARTMENT OF AGRICULTURE

## LETTER

FROM

## THE SECRETARY OF AGRICULTURE

TRANSMITTING

IN RESPONSE TO SENATE RESOLUTION NO. 351 (72D CONG.) A  
REPORT OF ALL FUNCTIONS OF THE DEPARTMENT OF AGRICULTURE AND THE ANNUAL COST THEREOF

APRIL 11 (calendar day, APRIL 15), 1933.—Ordered to lie on the table and to be printed

DEPARTMENT OF AGRICULTURE,  
*Washington, April 15, 1933.*

The PRESIDENT UNITED STATES SENATE,  
*Washington, D.C.*

SIR: The following report is submitted in accordance with Senate Resolution No. 351 to show all of the functions and/or activities conducted under the jurisdiction of this Department, the statutory authority therefor, and the total annual expenditures thereon for the latest complete fiscal year wherever practicable, or part thereof as indicated.

In accordance with the description and outline, pages 5024-5025 of the Congressional Record of February 24, 1933, of the form and type of the report desired, there is attached also a list of employees of this Department receiving compensation at the rate of \$5,000 or more per annum.

Very truly yours,

H. A. WALLACE, *Secretary.*

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MAY 2 1935

STATEMENT 1  
GENERAL SUPERVISION

	Number of em- ployees	Annual expenditures				Statutory authority
		Salaries, wages	Other	From other funds		
				From appro- priated funds	Amount Source	
Administrative expense: General:						Agricultural Appropriation Act, fiscal year 1932.
Secretary, Assistant Secretary, and Directors.	16. 18	\$81,462	-----	\$81,462	-----	
Personnel and business admin- istration.	12. 98	44,713	-----	44,713	-----	Do.
Purchase, sales, and traffic.	17. 68	39,452	-----	39,452	-----	Do.
Operation.	212.26	241,538	-----	241,538	-----	Do.
Solicitor.	51. 63	173,674	-----	173,674	-----	Do.
Mechanical shops and power plant.	1 138. 09	2 98,002	-----	2 98,002	-----	Do.
Miscellaneous expenses, De- partment of Agriculture.	-----	-----	\$220,815	220,815	-----	Do.
Rent of buildings in the District of Columbia.	-----	-----	124,095	124,095	-----	Agricultural Appropriation Act, fiscal year 1932; Second Deficiency Act, fiscal year 1931.
Personnel.	15. 57	32,910	-----	32,910	-----	Agricultural Appropriation Act, fiscal year 1932.
Purchasing and warehousing.	23. 38	39,887	-----	39,887	-----	Do.
Accounting and auditing.	37. 76	82,981	2,915	85,896	-----	Do.
Disbursing and collecting.	37. 80	78,100	-----	78,100	-----	Do.
Total.	1 563. 33	2 912,719	347,825	2 1,260,544	-----	

MAJOR CLASSIFICATIONS

Agricultural Economics.	3,381	\$5,232,572	\$1,560,854	\$6,608,517	\$184,909
Agricultural Engineering.	701	440,083	173,307	613,990	-----
Animal Industry.	4,486	9,366,164	5,905,857	15,272,021	-----
Biological Survey.	1,749	1,137,329	766,262	1,903,591	-----
Chemistry and Soils.	699	1,482,644	427,105	1,909,749	-----
Dairy Industry.	497	540,853	202,336	743,189	-----
Entomology.	1,847	1,913,898	570,778	2,484,676	-----
Farmers' Seed Loan.	46	70,287	10,736,563	10,806,850	-----
Food and Drug.	578	1,397,860	306,991	1,704,851	-----
Forest Service.	499,180	13,946,187	10,645,918	24,209,762	382,343
Grain Futures.	65	161,176	32,564	193,740	-----

## FUNCTIONS OF THE DEPARTMENT OF AGRICULTURE

3.

Home Economics.....	81	181,081	55,838	236,919	-----
Library.....	38	72,633	37,483	110,116	-----
Plant Industry.....	3,264	4,206,946	1,363,977	5,570,923	-----
Plant Quarantine.....	4,556	2,732,087	670,966	3,403,053	-----
Public Roads.....	6,480	4,262,962	203,881,049	206,617,478	1,526,533
Office of Experiment Stations.....	197	305,626	4,470,301	4,775,927	-----
Extension Service.....	7,242	1,493,361	8,866,383	10,359,744	-----
Office of Information.....	193	385,317	1,016,167	1,401,484	-----
Weather Bureau.....	4,127	3,073,266	1,056,441	4,129,707	-----
	9,133,617	52,402,942	252,747,140	303,056,297	2,093,785
Grand total.....	9,134,180	53,315,661	253,094,965	304,316,841	2,093,785

## FUNCTIONS

BUREAU OF AGRICULTURAL ECONOMICS						Annual agricultural appropriation act.
General administration.....	141.3	\$201,064	\$24,575	\$225,639	-----	
Personnel administration.....	5.0	9,850	1,080	10,930	-----	-----
Purchasing and warehousing.....	8.0	13,440	1,440	14,880	-----	-----
Accounting and auditing.....	15.0	31,040	3,380	34,420	-----	-----
Disbursing and collecting.....	(10)	-----	-----	-----	-----	-----
Project, activities, etc. (summary of details shown below).....	3,211.7	4,977,178	1,530,379	6,322,648	\$184,909	-----
Total, Bureau of Agricultural Economics.....	3,381.0	5,232,572	1,560,854	6,608,517	184,909	-----
DESIGNATION						
Farm management and practice:						
Agricultural credit, insurance, and taxation.....	70.0	63,555	5,005	68,560	-----	Do.
Land economics and land utilization.....	47.0	96,444	4,888	101,332	-----	Do.
Farm population and rural life.....	36.0	25,478	2,920	28,398	-----	Do.
Farm management and costs.....	182.1	184,890	25,308	210,198	-----	Do.
Corn borer research (discontinued).....	15.0	26,382	3,951	32,333	-----	Do.

<sup>1</sup> Includes mechanical shops personnel engaged on reimbursable work for other bureaus and offices.

<sup>2</sup> Exclusive of \$135,369 reimbursement for work done by mechanical shops for other bureaus and offices.

<sup>3</sup> Does not include funds transferred from the Reconstruction Finance Corporation.

<sup>4</sup> Includes approximately 97,000 intermittent temporary employment on forest fire and road construction work.

<sup>5</sup> Includes approximately 3,800 temporary employments.

<sup>6</sup> Includes approximately 4,000 temporary employments.

<sup>7</sup> Includes 2,245 extension agents employed in cooperation with States.

<sup>8</sup> Includes approximately 2,900 substitution employees—rainfall observers, etc.

<sup>9</sup> Includes approximately 116,000 temporary, intermittent, and cooperative employments. The regular force of the Department numbers about 18,000.

<sup>10</sup> Temporary disbursing officers are maintained in the foreign field but the disbursing work is of slight volume and incidental to regular functions. Salaries of such officers are shown under the project "Foreign Competition and Demand."

## FUNCTIONS—Continued

DESIGNATION—continued	Number of employees	Annual expenditures				Statutory authority
		Salaries, wages	Other	From other funds		
				From appropriated funds	Amount	
Marketing and distributing farm products.						
Marketing fruits and vegetables.	35.0	\$77,807	\$8,536	\$86,433		Annual agricultural appropriation act.
Market price trends.	50.0	104,115	10,475	114,590		Do.
Marketing livestock, meats, and wool.	28.5	83,953	7,816	91,769		Do.
Marketing dairy and poultry products.	16.0	34,068	2,875	36,943		Do.
Marketing hay, feed, and seed.	29.0	55,220	9,742	64,962		Do.
Cotton handling and marketing.	8.0	25,848	6,309	32,157		Do.
Cotton standards and testing.	46.0	35,113	11,547	46,660		Do.
Utilization of cotton.	22.0	30,442	3,680	34,122		U.S.C., supp. V, title 7, sec. 424.
Investigation of cotton ginning.	47.0	31,429	13,259	44,749		U.S.C., supp. V, title 7, sec. 425.
Grain investigations.	31.0	82,204	19,760	101,964		Annual agricultural appropriation act.
Market information.	13.0	42,780	1,072	43,852		Do.
Outlook reports.	62.3	100,289	15,698	115,987		Do.
Crop and livestock estimates:						
Crop and livestock reports.	444.7	600,424	111,849	712,273		Do.
Production and marketing statistics.	34.0	69,373	13,239	82,612		U.S.C., title 7, secs. 411-414.
Foreign competition and demand.	114.4	247,391	78,476	325,867		U.S.C., supp. V, title 7, secs. 541-545.
Market inspection of farm products:						
Inspection of fruits and vegetables.	151.2	250,516	52,566	303,112		Annual agricultural appropriation act.
Grading of canned fruits and vegetables.	8.0	10,627	9,693	20,320		Do.
Grading of dairy and poultry products.	32.8	32,985	8,321	41,306		Do.
Inspection of hay, beans, broom-corn, etc.	19.0	46,060	10,907	56,967		Do.
Grading of meat.	21.5	24,654	7,191	31,845		Do.
Grading of tobacco.	46.0	55,050	9,281	64,331		Do.
Grading of rice.	2.0	4,127	866	4,993		Do.
Market news service:						
Market reports on livestock meats and wool.	241.3	337,819	178,012	515,831		Do.
Market news service on fruits and vegetables.	223.6	323,361	229,252	552,613		Do.
Market news service on dairy and poultry products.	80.5	120,926	77,318	198,244		Do.



Market news service on grain, hay feed, seed.	52.0	73,304	37,104	110,408	Do.
Market news service on tobacco.	68.0	7,895	14,058	21,953	Do.
Estimates of cotton, grade and staple.	180.7	218,587	159,254	377,841	U.S.C., supp. V, title 7, secs. 471-476.
Tobacco stocks and standards.	32.8	21,406	3,566	24,972	U.S.C., supp. V, title 7, secs. 501-508.
Enforcement of the Perishable Agricultural Commodities Act.	48.5	103,784	24,826	128,610	U.S.C., supp. V, title 7, secs. 551-568.
Enforcement of the U.S. Cotton Futures Act and U.S. Cotton Standards Act.					U.S.C., title 28, secs. 731-752.
Administration of the acts.	14.0	19,340	483	19,823	U.S.C., title 7, secs. 51-65.
Future and spot-market investigation and cotton price quotations.	21.0	44,673	12,318	56,991	Do.
Preparation and distribution official cotton standards.	68.8	124,096	31,194	155,290	Do.
Supervision of cotton classing.	22.6	46,140	15,882	62,022	Do.
Classification of cotton (revolving fund).	131.8	128,507	44,012	\$172,519	Do.
Cotton Standards Act, special fund (revolving fund).	.8	1,140	11,250	12,390	Do.
Enforcement of the U.S. Grain Standards Act.					
Administration of the act.	281.7	647,014	119,341	766,355	U.S.C., title 7, secs. 71-87.
Inspection efficiency.	8.0	33,100	3,209	36,309	Do.
Board of review.	6.0	29,100	29,100	29,100	Do.
Administration of the U.S. Warehouse Act.	81.9	195,494	97,560	293,054	U.S.C., title 7, secs. 241-273.
Enforcement of the Standard Container Hamper and Produce Agency Act.					U.S.C., title 15, secs. 251-256.
Enforcement of standard container acts.	8.2	17,799	5,110	22,909	U.S.C., supp. V, title 15, secs. 257-257i.
Enforcement of Produce Agency Act.	4.0	7,880	2,100	9,980	U.S.C., supp. V, title 7, secs. 491-497.
Completion of wool work of War Industries Board.	.7	2,267	1,420	3,687	Executive order, Dec. 31, 1918. Annual Agricultural Appropriation Act.
Wool marketing studies.	14.3	32,211	5,850	38,061	U.S.C., supp. V, title 7, secs. 415b-415d.
Total.	3,211.7	4,977,178	1,530,379	6,322,648	
BUREAU OF AGRICULTURAL ENGINEERING				184,909	
General administration.	10.4	24,486	9,431	33,917	Act Feb. 23, 1931, vol. 46, pp. 1266, 1267. (Public, No. 717, 71st Cong.)
Personnel administration.	.7	1,540	81	1,621	Do.
Purchasing and warehousing.	2.2	3,402	19	3,421	Do.
Accounting and auditing.	4.0	7,084	332	7,366	Do.
Projects, activities, etc.	11 683.7	404,221	163,441	567,663	Do.
Total.	701.0	440,683	173,307	613,990	

11 Includes 558 temporary and seasonal employees.

## FUNCTIONS—Continued

	Number of employees	Annual expenditures				Statutory authority	
		Salaries, wages	Other	From appropriated funds	From other funds		
					Amount		Source
BUREAU OF AGRICULTURAL ENGINEERING—continued							
Utilization of water in irrigation.....	96.4	\$73,026	\$5,026	\$78,052		Act Feb. 23, 1931, vol. 46, pp. 1286, 1287. (Public, No. 717, 71st Cong.)	
Irrigation conduits and structures.....	32.4	25,725	2,416	28,141		Do.	
Customs, regulations, and laws relating to irrigation.....	8.3	7,156	75	7,231		Do.	
Run-off and hydraulics of drainage channels.....	45.6	16,788	7,330	24,118		Do.	
Drainage of farm lands.....	27.7	26,513	4,335	30,848		Do.	
Customs, regulations, and laws relating to drainage.....	5.0	2,854	4,269	7,123		Do.	
Control of soil erosion.....	194.3	42,883	34,205	77,088		Do.	
Development of farm lands.....	11.2	9,359	3,276	12,635		Do.	
Livestock shelters and appurtenances.....	3.7	6,208	2,760	8,968		Do.	
Improvement of farm buildings.....	1.4	4,101	4,222	8,323		Do.	
Farm building construction details.....	6	3,283	1,903	5,186		Do.	
Storage and transportation of farm products.....	16.5	12,231	10,179	22,410		Do.	
Corn borer control machinery.....	37.4	63,143	10,803	73,946		Do.	
Fertilizer distributing machinery.....	4.0	8,944	13,518	22,462		Do.	
Sugar beet production machinery.....	8.3	6,599	4,381	10,980		Do.	
Cotton production machinery.....	70.4	9,686	4,185	13,871		Do.	
Sugarcane harvesting machinery.....	1	493		493		Do.	
Corn production machinery.....	23.7	7,680	4,306	11,986		Do.	
Utilization and cost of farm power and machinery.....	1.7	5,242	2,257	7,499		Do.	
Machinery for controlling insect pests.....	4.8	5,902	3,241	9,143		Do.	
Artificial drying of crops.....	7.9	7,872	4,150	12,022		Do.	
Cotton ginning.....	72.1	22,221	28,634	50,855		Do.	
Miscellaneous research.....	1.4	6,116	11,214	17,330		Do.	
Advice and assistance.....	8.8	30,196	860	31,056		Do.	
Total.....	683.7	404,221	163,444	567,665			
BUREAU OF ANIMAL INDUSTRY							
General administration.....	51.5	93,709	4,801	98,510		U. S. C., title 5, secs. 511, 512; title 7, secs. 181-229, 391; title 21, secs. 101-105, 111-128, 130, 151-158; title 45, secs. 71-76; U. S. C., supp. V, title 7, secs. 205, 231; act July 7, 1932, 47 Stat. p. 618.	



Personnel administration.....	10	19,720	986	20,706	Do.
Accounting and auditing.....	20	40,740	1,956	41,076	Do.
Purchasing and warehousing.....	10	16,480	824	17,304	Do.
Projects, activities, etc.....	4,394.3	9,195,515	5,897,490	15,094,625	U.S.C., title 5, secs. 511, 512; title 7, secs. 181-229, 391; title 21, secs. 101-105, 111-127, 130, 151-158; title 45, secs. 71-76; U.S.C. supp. V, title 7, secs. 205, 231; act July 7, 1932, 47 Stat. pp. 617-621; U.S.C., title 21, secs. 71-96; act July 7, 1932, 47 Stat. p. 620; acts June 30, 1914, 38 Stat. p. 441; July 7, 1932, 47 Stat. pp. 642, 643.
Total.....	4,485.8	9,366,164	5,905,857	15,272,021	
Inspection and quarantine:					
Eradicating scabies in sheep.....	29	81,371	38,757	120,128	U.S.C., title 5, secs. 511, 512; title 7, secs. 181-229, 391; title 21, secs. 101-105, 111-127, 130, 151-158; title 45, secs. 71-76; U.S.C. supp. V, title 7, secs. 205, 231; act July 7, 1932, 47 Stat. p. 618.
Eradicating scabies in cattle and horses.....	25	80,605	36,906	117,511	Do.
Control interstate shipment livestock.....	133.2	287,132	3,578	290,710	Do.
Enforcement of the 28-hour law.....	13	29,919	745	30,664	Do.
Investigation of the existence of miscellaneous diseases, their control and eradication.....			208	208	Do.
Quarantine of animals at ports of entry.....	5	11,621	4,053	15,674	Do.
Inspection of animals for import.....	12	58,471	6,646	65,117	Do.
Supervision over the importation of animal by-products, forage, etc.....	25	67,275	2,775	70,050	Do.
Inspection and testing of animals for export.....	3	8,392	544	8,936	Do.
Inspection of vessels carrying export animals.....		1,378	92	1,470	Do.
Total.....	245.2	626,164	94,304	720,468	
Eradicating tuberculosis:					
Tuberculin testing of cattle at public stockyards for interstate shipment.....	29	65,846	602	66,448	U.S.C., title 5, secs. 511, 512; title 7, secs. 181-229, 391; title 21, secs. 101-105, 111-127, 130, 151-158; title 45, secs. 71-76; U.S.C. supp. V, title 7, secs. 205, 231; act July 7, 1932, 47 Stat. pp. 618, 619.
Eradicating tuberculosis from herds of cattle and from circumscribed areas.....	325	820,551	250,581	1,071,132	Do.
Indemnities for animals slaughtered on account of tuberculosis.....			4,785,723	4,785,723	Do.
Investigation of animal tuberculosis.....	7.7	13,460	9,842	23,302	Do.
Total.....	361.7	899,857	5,046,748	5,946,605	

## FUNCTIONS—Continued

	Number of em- ployees	Annual expenditures				Statutory authority	
		Salaries, wages	Other	From appro- priated funds	From other funds		
					Amount		Source
BUREAU OF ANIMAL INDUSTRY—con.							
Eradicating cattle ticks.....	440.9	\$616,751	\$104,302	\$721,053		U.S.C., title 5, secs. 511, 512; title 7, secs. 181-229, 391; title 21, secs. 101-105, 111-127, 130, 151-158; title 45, secs. 71-76; U.S.C., supp. V, title 7, secs. 205, 231; act July 7, 1932, 47 Stat. p. 619.	
Investigations in animal husbandry:							
Swine investigations.....	18	34,967	15,007	50,574		U.S.C., title 5, secs. 511, 512; title 7, secs. 181-229, 391; title 21, secs. 101-105, 111-127, 130, 151-158; title 45, secs. 71-76; U.S.C., supp. V, title 7, secs. 205, 231; act July 7, 1932, 47 Stat. p. 619.	
Sheep and goat investigations.....	33	74,260	27,954	102,214		Do.	
Horse and mule investigations.....	12	28,525	7,362	35,887		Do.	
Genetic research.....	6	14,409	2,845	17,254		Do.	
Beltsville farm.....	30	48,752	15,629	64,381		Do.	
Beef cattle investigations.....	100	122,396	51,754	174,150		Do.	
Certification of pedigrees.....	2	3,979	4,958	8,937		Do.	
Poultry investigations.....	58	116,808	57,029	173,837		Do.	
Nutrition research.....	18	27,474	8,897	36,371		Do.	
Meat investigations.....	15	33,097	3,168	36,265		Do.	
Livestock production, Big Spring, Tex.....	3	5,401	7,119	12,520		Do.	
Total.....	295	510,068	198,343	708,411			
Investigations of diseases of animals:							
Pathological investigations of dis- eases of livestock.....	15.5	40,049	8,624	48,673		U.S.C., title 5, secs. 511, 512; title 7, secs. 181-229, 391; title 21, secs. 101-105, 111-127, 130, 151-158; title 45, secs. 71-76; U.S.C., supp. V, title 7, secs. 205, 231; act July 7, 1932, 47 Stat. p. 619.	
Pathological investigations of dis- eases of poultry.....	3.6	5,490	9,357	14,847		Do.	
Pathological investigations of stock poisoning by plants.....	7.8	12,740	13,308	26,048		Do.	
Biological investigations of diseases of animals.....	4.3	10,065	430	10,495		Do.	
Index catalog and collection of parasites.....	3.3	9,518	150	9,668		Do.	
Investigations of poultry parasites.....	6.9	16,850	2,685	19,535		Do.	

Investigations of swine parasites-----	6.3	16,135	8,057	24,192	Do.
Investigations of ruminant parasites-----	52.2	95,719	21,524	117,543	Do.
Investigations of horse parasites-----	1.8	5,527	7,531	12,540	Do.
Investigations of miscellaneous parasites-----	7	11,265	1,275		Do.
Investigations of treatment of livestock for internal and external parasites-----	5.7	10,390	936	11,326	Do.
Breeding and feeding small animals for disease research-----	5	6,960	1,900	8,860	Do.
Investigation and control of contagious abortion of animals-----	45.5	69,876	24,044	93,920	Do.
Total-----	164.9	310,584	94,594	405,178	
Investigation, eradication, and control of hog cholera-----	45.2	121,503	35,802	157,305	U.S.C., title 5, secs. 511, 512; title 7, secs. 181-229, 391; title 21, secs. 101-105, 111-127, 130, 151-158; title 45, secs. 71-76; U.S.C., supp. V, title 7, secs. 205, 231; act July 7, 1932, 47 Stat. p. 619.
Hog cholera control looking to eradication-----					Do.
Investigation of methods of producing immunization against hog cholera-----	5.5	14,174	4,497	18,671	Do.
Investigations of modes of dissemination of hog cholera-----	3.5	9,448	1,757	11,205	Do.
Control of manufacture, importation, and shipment of viruses, serums, toxins, etc.-----	96	251,797	13,796	265,593	
Total-----	150.2	396,922	55,852	452,774	
Eradicating dourine-----	8	16,535	5,382	21,917	U.S.C., title 5, secs. 511, 512; title 7, secs. 181-229, 391; title 21, secs. 101-105, 111-127, 130, 151-158; title 45, secs. 71-76; U.S.C., supp. V, title 7, secs. 205, 231; act July 7, 1932, 47 Stat. p. 619.
Packers and stockyards administration-----	102.8	291,314	75,605	366,919	U.S.C., title 5, secs. 511, 512; title 7, secs. 181-229, 391; title 21, secs. 101-105, 111-127, 130, 151-158; title 45, secs. 71-76; U.S.C., supp. V, title 7, secs. 205, 231; act July 7, 1932, 47 Stat. p. 620.
Meat inspection:-----					U.S.C., title 21, secs. 71-96; act July 7, 1932, 47 Stat. p. 620.
Special supervisory inspection-----	3	10,800	2,225	13,025	Do.
Laboratory inspection-----	32.1	69,892	18,360	88,252	Do.
Ante-mortem inspection of animals for slaughter-----	132.6	288,496	6,943	295,439	Do.
Post-mortem inspection of animals-----	1,205.3	2,677,361	33,415	2,710,776	Do.
Control over the preparation of meats and meat products-----	1,128.1	2,374,387	29,998	2,404,385	Do.
Inspection at public markets-----	.5	1,006		1,006	Do.

## FUNCTIONS—Continued

	Number of em- ployees	Annual expenditures				Statutory authority	
		Salaries, wages	Other	From appro- priated funds	From other funds		
					Amount		Source
BUREAU OF ANIMAL INDUSTRY—con.							
Meat inspection—Continued.							
Control over operations conducted under certificates of exemption.	1.0	\$2,173	\$126	\$2,299		U.S.C., title 21, secs. 71-96; act July 7, 1932, 47 Stat. p. 620.	
Inspection of imported meats and meat food products.	10.3	22,298	133	22,431		Do.	
Chemical investigations of meats and meat food products.	2.5	8,736	1,361	10,097		Do.	
Investigation of pathological con- ditions noted during meat in- spection.	5.5	12,315	1,116	13,431		Do.	
Deduction from project on account of legislative furlough.						Do.	
Total	2,520.9	5,467,464	93,677	5,561,141			
Eradicating foot and mouth and other contagious diseases of animals:							
Eradicating foot and mouth and other contagious diseases of ani- mals.	11.4	29,066	113,533	142,599		U.S.C., title 21, secs. 112-115, 117-119, 129, 130; act July 7, 1932, 47 Stat. pp. 620, 621.	
Eradication of European fowl pest and similar diseases in poultry.	3.3	3,997	63	4,060		Do.	
Total	14.7	33,063	113,596	146,659			
Experiment and livestock production in southern United States.	31	28,413	15,087	43,500		Acts June 30, 1914, 38 Stat. p. 441; July 7, 1932, 47 Stat. pp. 642, 643.	
BUREAU OF BIOLOGICAL SURVEY							
General administration	23.00	51,708	4,778				
Personnel administration	.60	1,152					
Purchasing and warehousing	2.40	4,112					
Accounting and auditing	11.00	21,180					
Total	37.00	77,940	4,778	82,718			



[illegible]

Discontinued in 1934.



## FUNCTIONS—Continued

	Number of employees	Annual expenditures				Statutory authority	
		Salaries, wages	Other	From appropriated funds	From other funds		
					Amount		Source
BUREAU OF BIOLOGICAL SURVEY—con.							
Protection of migratory birds: Migratory Bird Treaty Act.....	145. 00	\$97,687	\$60,377	\$158,064		U.S.C., title 16, secs. 703-711; U.S.C., title 18, secs. 391-394; U.S.C., title 16, sec. 701.	
Investigations of migratory birds: Lacey Act.....	14. 00	23,439	11,284	34,723		Do.	
	11. 00	16,290	1,717	18,007		Do.	
Total.....	170. 00	137,416	73,378	210,794			
Enforcement of Alaska: Upper Mississippi River Wild Life Refuge:	35. 00	57,075	48,366	105,441		U.S.C., title 48, secs. 192-211, 46 Stat. 1111-1115.	
Administration.....	53. 00	28,131	17,176	45,307			
Acquisition of land.....	61. 00	28,849	16,681	45,530		U.S.C., title 16, secs. 721-731.	
Total.....	114. 00	56,980	33,857	90,837		Do.	
Bear River Migratory Bird Refuge: Administration.....	23. 00	12,424	7,082	19,506		Do.	
Development <sup>12</sup> .....	10. 00	1,876	6,991	8,867		Do.	
Total.....	33. 00	14,300	14,073	28,373		U.S.C., supp. V, title 16, secs. 690-690 h.	
Migratory Bird Conservation Refuges: Acquisition of land.....	98. 00	58,520	320,358	378,878		U.S.C., supp. V, title 16, secs. 715-715 f.	
Investigation of food resources of migratory bird refuge areas.....	2. 00	4,225	1,400	5,625		Do.	
Disease investigations.....	2. 00	3,480	2,220	5,700		Do.	
Maintenance of migratory bird conservation refuges.....	33. 00	5,183	4,614	9,797		Do.	
Total.....	135. 00	71,408	328,592	400,000			
Migratory Bird Conservation Commission. Cheyenne Bottoms Migratory Bird Refuge. <sup>12</sup>	1. 00	333	1,167	1,500		U.S.C., supp. V, title 16, secs. 715-715 f.	
Malheur Lake Bird Refuge <sup>12</sup> .....	5. 00	10,947	6,479	17,426		U.S.C., supp. V, title 16, secs. 691-691 d.	
	22. 00	23,148	9,830	32,978			
Total.....	1,712. 00	1,059,389	761,484	1,820,873		Do.	

BUREAU OF CHEMISTRY AND SOILS									
General administration.....					26.80	55,984	5,547	61,531	U.S.C., title 5, secs. 511, 512, 524; Act Feb. 23, 1931, vol. 46, p. 1261.
Personnel administration.....					1.50	3,630			Do.
Purchasing and warehousing.....					3.50	6,320	140	3,630	Do.
Accounting and auditing.....					7.00	15,160	528	15,688	Do.
Disbursing and collecting.....									
Projects, activities, etc.....					537.30	1,327,017	373,938	1,700,975	U.S.C., title 5, secs. 511, 512, 524; Act Feb. 23, 1931, vol. 46, pp. 1261, 1262.
Total.....					576.10	1,408,111	380,173	1,788,284	Act Feb. 23, 1931, vol. 46, p. 1275.
Soil erosion (allotment).....					93.30	74,533	46,932	121,465	
Grand total.....					699.40	1,482,644	427,105	1,909,749	
Agricultural chemical investigation:									
Carbohydrates.....					27.50	64,844	18,976	83,820	U.S.C., title 5, secs. 511, 512, 524; Act Feb. 23, 1931, vol. 46, p. 1261.
Food research.....					39.40	97,742	13,588	111,300	Do.
Fruit and vegetable by-products.....					19.00	45,448	22,892	68,340	Do.
Industrial farm products.....					33.50	72,207	25,770	97,977	Do.
Lignin.....					4.00	10,367	3,908	14,275	Do.
Oil, fat, and wax.....					2.80	10,076	950	11,026	Do.
Protein and nutrition.....					11.30	27,785	6,150	33,935	Do.
Farm fires.....					4.00	12,050	1,280	13,330	Do.
Total.....					141.50	340,519	93,484	434,003	
Color investigations.....					29.90	76,515	14,036	90,551	Do.
Insecticides and fungicides investigations:									
Organic insecticides and fungicides.....					29.50	68,867	9,517	78,384	U.S.C., title 5, secs. 511, 512, 524; act Feb. 23, 1931, vol. 46, pp. 1261, 1262.
Inorganic insecticides and fungicides.....					12.20	30,461	2,854	33,315	Do.
Total.....					41.70	99,328	12,371	111,699	
Plant-dust explosions.....					12.90	31,295	4,982	36,277	U.S.C., title 5, secs. 511, 512, 524; act Feb. 23, 1931, vol. 46, p. 1262.
Naval stores investigations:									
Naval stores investigations.....					7.60	17,852	12,133	29,985	Do.
Naval stores station.....					2.00	4,290	31,250	35,540	Do.
Total.....					9.60	22,142	43,383	65,525	

<sup>12</sup> Discontinued in 1934.

## FUNCTIONS—Continued

	Number of employees	Annual expenditures					Statutory authority
		Salaries, wages	Other	From appropriated funds	From other funds		
					Amount	Source	
BUREAU OF CHEMISTRY AND SOILS—CON.							
Fertilizer investigations:							
Catalysts in nitrogen fertilizer investigations.	14. 20	\$31,913	\$9,162	\$41,075			U.S.C., title 5, secs. 511, 512, 524; act Feb. 23, 1931, vol. 46, p. 1262.
Transformation of nitrogen compounds.	13. 50	32,917	8,567	41,484			Do.
Biochemical and organic investigations.	12. 00	30,303	4,322	34,625			Do.
Physics and chemical fertilizer investigations.	26. 80	65,540	10,060	75,600			Do.
Phosphate fertilizer investigations.	12. 00	28,778	8,672	37,450			Do.
Potash fertilizer investigations.	14. 00	36,594	9,541	46,135			Do.
Concentrated fertilizer investigations.	26. 00	66,378	11,912	78,290			Do.
Total	118. 50	292,423	62,236	354,659			
Soil chemical and physical investigations:							
Soil chemistry	12. 00	37,248	4,932	42,180			Do.
Soil physics	5. 60	15,286	3,074	18,360			Do.
Total	17. 60	52,534	8,006	60,540			
Soil survey:							
Detailed and reconnaissance surveys.	67. 80	161,089	68,466	229,555			Do.
Inspection and correlation	7. 70	29,299	4,303	33,602			Do.
Map drafting	18. 00	34,285	2,235	36,520			Do.
Total	92. 50	224,673	75,004	299,677			
Soil microbiology investigations	13. 10	35,452	6,450	41,902			Do.

Soil fertility investigations:	44. 00	114, 336	35, 030	149, 375	Do.
Soil fertility investigations.....	13. 00	30, 200	16, 642	46, 842	Do.
Cotton root-rot.....	3. 00	7, 600	2, 325	9, 925	Do.
Total.....	60. 00	152, 136	54, 006	206, 142	
Total projects.....	537. 30	1, 327, 017	373, 958	1, 700, 975	
Soil erosion (allotment).....	93. 30	74, 533	46, 932	121, 465	
Grand total, projects.....	630. 60	1, 401, 550	420, 890	1, 822, 440	
BUREAU OF DAIRY INDUSTRY					
General administration.....	28. 20	56, 249	3, 285	59, 534	U. S. C., title 5, secs. 511, 512; title 7, secs. 401-404; title 26, secs. 578-580; U. S. C., supp. V, title 7, secs. 385, 385a, 422; acts May 31, 1920, 41 Stat., p. 730; July 7, 1932, 47 Stat., p. 621.
Personnel administration.....	1. 50	2, 630	400	3, 030	Do.
Purchasing and warehousing.....	4. 35	8, 620	200	8, 820	Do.
Accounting and auditing.....	462. 95	473, 354	198, 451	671, 805	Do.
Projects, activities, etc.....	497. 00	540, 853	202, 336	743, 189	
Total.....	16. 00	55, 300	9, 142	64, 532	U. S. C., title 5, secs. 511, 512; title 7, secs. 401-404; title 26, secs. 578-580; U. S. C., supp. V, title 7, secs. 385, 385a, 422; acts May 31, 1920, 41 Stat. 730; July 7, 1932, 47 Stat. 621.
Dairy manufacturing investigations and introduction.....	20. 95	44, 086	7, 364	51, 450	Do.
Dairy cattle breeding, feeding, and management.....	50. 50	99, 270	56, 507	155, 777	Do.
Ice cream investigations.....	4. 16	11, 903	859	12, 762	Do.
Butter and byproducts investigations.....	8. 17	20, 653	5, 554	26, 207	Do.
Condensed milk and milk powder.....	9. 17	27, 270	3, 505	30, 775	Do.
Investigations in bacteriology and chemistry of milk.....	5. 16	16, 623	1, 149	17, 772	Do.
Nutrition of dairy cows.....	39. 17	46, 548	12, 948	59, 496	Do.
Cheese manufacturing investigations.....	9. 17	22, 240	7, 179	29, 419	Do.
Market-milk investigations.....	7. 00	24, 100	1, 834	25, 934	Do.
Operation and maintenance, Beltsville, Md.....	102. 50	51, 587	47, 049	98, 636	Do.
Missouri experiment station.....	11. 00	3, 968	3, 755	7, 723	Do.
Ardmore (S. Dak.) field station.....	15. 00	4, 883	4, 673	9, 556	Do.
Huntley (Mont.) field station.....	27. 00	8, 661	5, 935	14, 596	Do.
Mandan (N. Dak.) field station.....	35. 00	9, 349	6, 030	15, 379	Do.
Woodward (Okla.) field station.....	38. 00	12, 198	5, 036	17, 234	Do.
Lewisburg (Tenn.) field station.....	28. 00	12, 065	10, 805	22, 870	Do.
South Carolina experiment station.....	37. 00	7, 560	9, 127	16, 687	Do.
Total.....	462. 95	473, 354	198, 451	671, 805	Do.



## FUNCTIONS—Continued

	Number of employees	Annual expenditures				Statutory authority	
		Salaries, wages	Other	From appropriated funds	From other funds		
					Amount		Source
BUREAU OF ENTOMOLOGY							
General administration <sup>13</sup>	48.00	\$100,251	\$6,063	\$106,314		U.S.C., title 5, secs. 511, 512; title 7, secs. 141-167; U.S.C. supp. IV., title 16, sec. 581C; act Feb. 23, 1931, vol. 46, p. 1263.	
Personnel administration	2.00	4,700	150	4,850		Do.	
Purchasing and warehousing	3.00	6,580	186	6,766		Do.	
Accounting and auditing	12.00	22,275	500	22,775		Do.	
Projects, activities, etc.	1,782.00	1,780,092	563,879	2,343,971		Do.	
Total, Bureau of Entomology <sup>14</sup>	1,847.00	1,913,898	570,778	2,484,676		Do.	
Apple insect investigations	51.00	43,892	7,775	51,667		U.S.C., title 5, secs. 511, 512; title 7, secs. 141-167; U.S.C. supp. IV., title 16, sec. 581C; act Feb. 23, 1931, vol. 46, p. 1263.	
Peach insect investigations	77.00	64,638	18,397	83,235		Do.	
Grape insect investigations	2.00	3,771	1,157	4,928		Do.	
Nut insect investigations	38.00	29,536	7,683	37,219		Do.	
Blueberry maggot investigations	6.00	5,218	711	5,929		Do.	
Subtropical fruit insect investigations:							
Black-fly parasites	7.00	5,093	907	6,000		Do.	
Resistant-scale insects	19.00	17,694	4,734	22,428		Do.	
Parlatoria date scale	2.00	4,082	431	4,513		Do.	
Citrus insects in Gulf region	13.00	10,402	2,790	13,192		Do.	
Citrus insects in California	6.00	5,898	1,578	7,476		Do.	
Fruit-fly investigations:							
In Hawaii	6.00	6,850	625	7,475		Do.	
In Canal Zone	2.00	5,127	532	5,659		Do.	
In Mexico	26.00	18,332	5,692	24,024		Do.	
Shade tree and hardy shrub insect investigations:							
Camphor scale	10.00	8,078	3,073	11,151		Do.	
Shade-tree insects	9.00	9,251	10,000	19,251		Do.	
Japanese and Asiatic beetle investigations.	190.00	128,590	37,505	166,095		Do.	
Truck crop insect investigations:							
European earwig	8.00	7,084	2,139	9,223		Do.	
Vegetable weevil	7.00	6,576	1,600	8,176		Do.	
Turnip aphid	7.00	7,120	1,112	8,232		Do.	
Pepper weevil	5.00	4,500	500	5,000		Do.	



Celery insects.....	12.00	10,236	4,100	14,335	Do.
Sweetpotato weevil.....	11.00	9,600	3,840	13,440	Do.
Sweetpotato wireworm.....	5.00	4,500	5,000	9,500	Do.
Wireworms in Pacific Northwest.....	30.00	27,113	12,792	39,905	Do.
Wireworms in California.....	10.00	7,580	2,671	10,251	Do.
Wireworms in South Carolina.....	7.00	6,200	1,300	7,500	Do.
Bean insects.....	40.00	29,703	12,531	42,234	Do.
Lima-bean pod borer.....	8.00	5,903	1,097	7,000	Do.
Pea insects.....	9.00	6,383	1,418	7,801	Do.
Other truck crop insects.....	21.00	17,711	8,711	26,422	Do.
Berry insects.....	16.00	15,331	3,703	19,034	Do.
Sugar-beet insects.....	84.00	63,569	35,737	100,306	Do.
Tobacco insects.....	21.00	16,618	6,262	22,880	Do.
Mushroom insects.....	8.00	3,276	1,951	5,227	Do.
Greenhouse insects.....	13.00	17,570	4,063	21,633	Do.
Bulb insects.....	14.00	16,794	5,636	22,430	Do.
Forest insect investigations:					
Cooperative control work.....	25.00	39,692	17,979	54,664	Do.
Tree-killing insects.....	24.00	36,192	11,173	47,365	Do.
Forest products.....	2.00	6,000	1,500	7,500	Do.
Gipsy and other moth investigations.....	48.00	72,857	14,328	90,192	Do.
Cereal and forage insect investigations:					
Hessian fly.....	25.00	24,137	6,485	30,622	Do.
Chinch bug.....	12.00	15,479	16,111	31,590	Do.
Grasshoppers.....	26.00	12,067	19,666	31,733	Do.
Mormon cricket.....	15.00	4,323	4,995	9,318	Do.
Cereal insects.....	28.00	27,523	9,121	36,644	Do.
Alfalfa weevil.....	21.00	24,049	29,259	53,308	Do.
Insects and diseases.....	42.00	37,449	3,852	41,301	Do.
Forage insects.....	41.00	36,330	3,968	40,298	Do.
European corn borer.....	180.00	182,419	63,906	246,325	Do.
Sugarcane and rice insects.....	30.00	26,967	12,337	39,304	Do.
Ottion boll weevil investigations.....	126.00	86,293	21,155	107,448	Do.
Miscellaneous cotton insects.....	73.00	36,072	8,158	44,230	Do.
Thurberia weevil.....	11.00	9,345	8,124	17,469	Do.
Pink bollworm.....	41.00	29,341	18,496	47,837	Do.
Insects affecting man:					
Eye gnat.....	8.00	7,267	2,133	9,400	Do.
Mosquito investigations.....	11.00	14,536	7,538	22,074	Do.
Osteomyelitis.....	3.00	17,289	2,134	19,423	Do.
Sand fly.....	8.00	11,886	4,070	15,956	Do.
Insects affecting cattle.....	21.00	31,397	17,698	49,095	Do.
Insects affecting poultry and birds.....			915	915	Do.
Insects affecting sheep and goats.....	12.00	22,873	9,351	32,224	Do.
Insects affecting miscellaneous animals.....	1.00	2,627	2,370	4,997	Do.

U.S.C., title 5, secs. 511, 512; title 7, secs. 141-167;  
U.S.C., supp. IV, title 16, sec. 581C; act Feb. 23,  
1931, vol. 46, p. 1263.

<sup>13</sup> Including editorial section and library.  
<sup>14</sup> Including 1,180 temporary employees, some of whom worked only a few days.

## FUNCTIONS—Continued

	Number of em- ployees	Annual expenditures				Statutory authority	
		Salaries, wages	Other	From appro- priated funds	From other funds		
					Amount		Source
BUREAU OF ENTOMOLOGY—continued							
Stored product insect investigations:							
Bean weevil.....	3. 00	\$3, 651	\$3, 262	\$6, 913		U.S.C., title 5, secs. 511, 512; title 7, secs. 141-167; U.S.C., supp. IV, title 16, sec. 581C; act Feb. 23, 1931, vol. 46, p. 1263.	
Pea weevil.....	4. 00	8, 786	4, 182	12, 968		D.O.	
Stored grain.....	9. 00	20, 392	15, 255	35, 647		D.O.	
Dried fruits.....	5. 00	10, 073	2, 814	12, 887		D.O.	
Stored tobacco.....	7. 00	15, 090	19, 802	34, 892		D.O.	
Confections.....	2. 00	4, 400	60	4, 460		D.O.	
Wood products.....	1. 00	4, 600	180	4, 780		D.O.	
Household insect investigations.....	3. 00	5, 177	1, 231	6, 408		D.O.	
Argentine ant investigations.....	5. 00	5, 892	4, 554	10, 446		D.O.	
Taxonomic investigations:							
On beetles.....	10. 00	25, 427	67	25, 494		D.O.	
On moths.....	9. 50	24, 022	68	24, 090		D.O.	
On flies.....	4. 00	10, 191	300	10, 491		D.O.	
On hymenoptera.....	12. 00	25, 815	1, 939	27, 754		D.O.	
On grasshoppers.....	2. 00	5, 420		5, 420		D.O.	
On true bugs.....	1. 50	3, 950	42	3, 992		D.O.	
On scale insects.....	4. 00	10, 950	522	11, 472		D.O.	
On leafhoppers.....	2. 00	4, 590		4, 590		D.O.	
On aphids.....	1. 00	3, 400		3, 400		D.O.	
On ectoparasites and mites.....	2. 00	5, 182	63	5, 245		D.O.	
Insect pest survey.....	5. 00	11, 596	1, 021	13, 217		D.O.	
Public relations.....	6. 00	15, 404	2, 675	18, 079		D.O.	
Biochemical studies of insects.....	4. 00	3, 680	546	4, 226		D.O.	
Morphological investigations.....	2. 00	9, 400	271	9, 671		D.O.	
Exchange of useful insects.....	2. 00	7, 825	98	7, 923		D.O.	
Physiology and toxicology.....	13. 00	27, 652	8, 463	36, 115		D.O.	
Diseases of bees.....	2. 00	7, 307	705	8, 012		D.O.	
Physiology of bees.....	7. 00	11, 360	4, 248	15, 608		D.O.	
Technological studies of bees.....	2. 00	7, 030	1, 976	9, 006		D.O.	
Beekeeping in intermountain regions.....	4. 00	7, 481	2, 466	9, 947		D.O.	
Beekeeping in Southern States.....	5. 00	8, 108	2, 147	10, 255		D.O.	
Beekeeping in Pacific States.....	8. 00	11, 832	2, 726	14, 558		D.O.	
Total.....	1, 782. 00	1, 780, 092	563, 879	2, 343, 971			

## FARMERS' SEED LOAN OFFICE

(Does not include funds transferred from the Reconstruction Finance Corporation)

General administration.....	3.0	10,400	40,972	51,372	Act of Feb. 23, 1931 (46 Stat. 1242).
Personnel administration.....	1.0	1,620	---	1,620	Do.
Accounting and auditing.....	12.4	19,888	---	19,888	Do.
Projects, activities, etc.....	29.3	38,379	10,695,591	10,733,970	Do.
Total.....	45.7	70,287	10,736,563	10,806,850	
Collection of seed-grain loans.....	11.7	15,352	---	15,352	Act of Feb. 23, 1931 (46 Stat. 1242).
Loans to farmers in drought and storm stricken areas.....	17.6	23,027	10,693,591	10,718,618	Act of Feb. 14, 1931 (46 Stat. 1160); act of Feb. 23, 1931 (46 Stat. 1242).
Total.....	29.3	38,379	10,695,591	10,733,970	
BUREAU OF FOOD AND DRUG ADMINISTRATION					
General administration.....	40.5	68,377	2,526	70,903	U. S. C., title 5, secs 511, 512; title 7, secs. 91-99, 121-134; title 21, secs. 1-15, 41-50; U. S. C., supp. IV, title 15, secs. 401-411; title 21, secs. 141-149; act Feb. 23, 1931, vol. 46, p. 1272.
Personnel administration.....	1.0	3,300	267	3,567	Do.
Purchasing and warehousing.....	7.5	12,740	307	13,047	Do.
Accounting and auditing.....	7.5	16,322	689	17,011	Do.
Projects, activities, etc.....	521.4	1,297,121	303,202	1,600,323	Do.
Total.....	577.9	1,397,860	306,991	1,704,851	
Enforcement of the Food and Drugs Act:					
Beverage and beverage products.....	9.1	22,296	5,182	27,478	U. S. C., title 21, secs. 1-15.
Cereal products.....	12.8	31,417	38,961	38,961	Do.
Chocolates and saccharin.....	14.8	36,484	8,972	45,456	Do.
Dairy products.....	30.5	74,995	18,238	93,233	Do.
Eggs.....	12.8	31,417	8,051	39,468	Do.
Fishery products.....	39.8	97,292	23,525	120,817	Do.
Flavors and spices.....	13.2	32,430	8,127	40,557	Do.
Fruit products.....	77.8	191,542	45,463	237,005	Do.
Feeds, stock.....	4.5	11,148	2,553	13,701	Do.
Fruit products and poultry.....	4.9	12,161	13,345	13,345	Do.
Miscellaneous.....	4.1	10,184	2,281	12,465	Do.
Nuts and nut products.....	4.9	12,161	3,339	15,500	Do.
Oils and fats.....	3.4	13,173	3,334	16,507	Do.
Vegetable products.....	55.9	132,761	32,774	165,535	Do.
Crude drugs.....	7.4	18,242	4,740	22,982	Do.
Pharmaceuticals.....	51.1	123,067	31,095	154,162	Do.
Proprietary preparations.....	50.2	123,040	30,547	153,587	Do.
Veterinary preparations.....	2.9	7,094	1,332	8,426	Do.

## FUNCTIONS—Continued

	Number of employees	Annual expenditures					Statutory authority
		Salaries, wages	Other	From appropriated funds	From other funds		
					Amount	Source	
BUREAU OF FOOD AND DRUG ADMINISTRATION—continued							
Enforcement of the Food and Drugs Act—Continued	7.8	\$19,256	\$4,436	\$23,692			U.S.C., title 21, secs. 1-15.
Vitamin preparations	4.1	10,134	2,387	12,521			Do.
Mapes amendment							
Total	411.7	1,013,446	247,119	1,260,565			
Enforcement of the Tea Act	20.6	35,621	4,357	39,978			U.S.C., title 21, secs. 41-50.
Enforcement of Naval Stores Act	8.4	27,291	6,679	33,970			U.S.C., title 7, secs. 91-99.
Enforcement of Insecticide Act:							U.S.C., title 7, secs. 121-134.
Inspection of domestic and import shipment of insecticides and fungicides, development of cases and State cooperation.	17.6	47,913	10,637	58,550			
Chemical, microscope, and bacteriologic examinations of insecticides and fungicides (including disinfectants).	29.2	79,551	17,887	97,438			Do.
Testing of efficacy of fungicides and action on foliage of insecticides.	7.9	24,636	1,864	26,500			Do.
Testing of efficacy of insecticides and their action on foliage.	8.5	23,095	5,205	28,300			Do.
Total	63.2	175,195	35,593	210,788			
Enforcement of Milk Importation Act	10.7	26,042	6,093	32,135			U.S.C., supp. IV, title 21, secs. 141-149.
Enforcement of Caustic Poison Act	6.8	19,526	3,361	22,887			U.S.C., supp. IV, title 15, secs. 401-411.
Total	521.4	1,297,121	303,202	1,600,323			



*Functions of the Forest Service*

Annual expenditures, fiscal year 1932											
Number of employees		From appropriated funds					From other funds		Statutory authority		
Permanent man-years	Temporary number of employees	Salaries and wages		Other	Amount	Source					
		Permanent	Temporary								
General administration											
121.8	2	\$283,403	\$436	\$41,869	\$325,708				Agricultural Appropriation Act.		
2.0		4,520			4,520				Do.		
66.0		117,461		56,736	174,197				Do.		
32.0		84,248		3,760	88,008				Do.		
20.0		48,347			48,347				Do.		
2,564.3	96,372	6,308,278	7,099,494	10,543,553	23,568,982		Cooperative repayments and undeposited cooperative funds.	\$382,343	Agricultural Appropriation Act and act June 30, 1932. Public, No. 302.		
Total, Forest Service											
2,806.1	96,374	6,846,257	7,099,930	10,645,918	24,209,762		do	382,343			
Administration, protection, improvement, reforestation, and extension of national forests:											
Administration:											
Timber use											
Grazing use											
Fish and game protection											
Recreation and land use											
Utilization of water resource											
Land class, settlements and claims											
Land status, general field drafting, forest map compilation											
boundary posting, etc.											
Reconnaissance of grazing lands											
Timber surveys											
Fish and game surveys and plans											
Recreational surveys and plans											
Protection:											
Fire prevention and detection											
Fire suppression											
Protection against insects and tree diseases.											



## Functions of the Forest Service—Continued

Annual expenditures, fiscal year 1932											
	Number of em- ployees		Salaries and wages				Other	From ap- propriated funds	From other funds		Statutory authority
	Perma- nent man- years	Tempo- rary number of em- ployees	Perma- nent	Tempo- rary	Amount	Source					
Administration, protection, improve- ment, reforestation, and extension of national forests—Continued Improvements: Construction of improvements (telephone lines, trails, fire breaks, truck trails, lookout towers, cabins, etc.). Maintenance of improvements (telephone lines, trails, fire breaks, truck trails, lookout towers, cabins, etc.). Highways within national forests.  Reforestation: Nurseries and tree planting. Extension of national forest areas, through: Land exchanges. Acquisition under act of Mar. 1, 1911, as amended. Forestry extension.  Total								\$4,920,564	\$96,665	Agricultural Appropriation Act and act June 30, 1932.	
								1,959,527	16,714	Do.	
								259,371		Agricultural Appropriation Act.	
								287,855		Do.	
								80,006		Do.	
								1,732,711		Do.	
								131,546		Do.	
		92,107		\$4,975,498	\$6,700,195	\$7,568,224	19,130,538	113,379			
		2,087.2									
	Research in forestry: Forest management investigations								556,196	4,000	Agricultural Appropriation Act and act June 30, 1932.
Forest range investigations								131,944	1,200	Do.	
Forest watershed-protection investi- gations.								97,376	3,000	Do.	
Forest products investigations.								620,082	2,428	Do.	
Forest economics investigations.								73,317	850	Do.	
Forest taxation and insurance investi- gations.								60,765		Agricultural Appropriation Act.	

Forest survey of the United States.									do.	4, 836		Agricultural Appropriation Act and act June 30, 1932.
Miscellaneous studies by National Forest Organization.									do.	82, 336		Agricultural Appropriation Act.
Total	454.9	195	1, 248, 722	97, 435	500, 285	1, 830, 128	16, 314		do.			
Construction of Forest Products Laboratory Building.	2.0		9, 800		631, 069	640, 869						Agricultural Appropriation Act.
Protection and reforestation of other than national forest lands:												Do.
Tree planting in cooperation with States under act of June 7, 1924.						102, 465						
Fire protection in cooperation with States under act of June 7, 1924, and with owners of lands in and adjoining national forests.						1, 779, 238	252, 650		Cooperative repayments and undeposited cooperative funds.			Agricultural Appropriation Act and act of June 30, 1932.
Protection of Oregon and California grant lands.						85, 744						Agricultural Appropriation Act.
Total	20.2	4, 070	74, 258	301, 864	1, 843, 975	1, 967, 447	252, 650		Cooperative repayments and undeposited cooperative funds.			Do.
Grand total.	2, 564.3	96, 372	6, 308, 278	7, 099, 494	10, 543, 553	23, 588, 982	382, 343		do.			Do.

<sup>1</sup> Additional expenditure made by Bureau of Public Roads from appropriations set up to and allotments made by Forest Service will be reported by Bureau of Public Roads.

## MEMORANDUM TO ACCOMPANY REPORT ON FUNCTIONS OF THE FOREST SERVICE

*General administration.*—The function of general administration includes the general overhead in the District of Columbia which exercises general control over direct or "project" activities of the Forest Service and maintains necessary relationships with and makes reports to other Government agencies in Washington.

*Personnel administration.*—Personnel administration in its true sense is, of course, inseparable from managerial or executive functioning. Personnel administration is a part and often a prominent part of the duty of every executive of the Forest Service from the Chief of the Bureau to the last foreman in charge of a fire fighting or a trail building crew. Such personnel administration necessarily includes the keeping or the supervision of the keeping of records necessary to enable the executive concerned to function effectively in meeting his responsibilities for the management of the personnel responsible to him. It is understood that the report does not contemplate a segregation of the time spent by all of these executives and their assistants on personnel administration; the two permanent employees reported as engaged in personnel administration are the two clerks in Washington who devote practically their full time to the keeping of appointment and related records and preparation of formal recommendations which are necessary for the use of the Chief Forester and his associates and assistants in the Washington office who have responsibilities for personnel administration.

*Purchasing and warehousing.*—This function is carried as a service to facilitate the activities and projects for which the Forest Service is responsible. The present status and organization of the purchasing and warehousing activity is the result of a long process of trial and error in determining the degree of centralization and location of purchasing and warehousing work which, under the wide variety of conditions involved, will yield acceptable service to productive activities and do it at the lowest cost.

Originally, the only centralization of purchasing and warehousing was at the central office of the Forest Service in Washington, D.C. This proved so unsatisfactory that before 1910 a supply depot was established at Ogden, Utah, to handle stationery, office supplies, and certain standard articles generally used in protection and administration of national forest land. After the disastrous experience with forest fires in 1910 the need was recognized for central warehouses at which stores of tools, supplies, and equipment might be carried for use as needed on large fires any place within the territory served. After some delay and much difficulty in developing techniques which would enable this centralized warehousing service to give the speed and adequacy of service needed in coping with large fires, the obvious desirability of centralizing the purchase and distribution of food and other supplies used in other forest protection activities led to further and profitable but incidental use of the personnel and facilities which had to be maintained any way as a necessary means of meeting fire-suppression needs. Various additional items of equipment and commodities are now handled by such warehouses whenever such centralization actually proves more advantageous, all things considered, than purchase and warehousing directly by the consuming organizations



on the national forests themselves or by centralization for the Forest Service as a whole.

The degree of centralization of purchasing and warehousing under present practice is dependent on a variety of factors. Thus, prompt and adequate furnishing of standard office supplies, stationery, and certain standard articles is most economically handled by one central purchasing, warehousing, and distributing agency serving the entire field work of the Forest Service with its activities in all States and three Territories. Warehousing of tools and supplies needed on fires which escape from local national forest organizations must be handled for smaller geographical units if the indispensable degree of speed and adequacy of service is to be attained. Under some circumstances it is most economical and efficient to locate warehouses for handling of food and other bulky supplies fairly close together. Under some conditions no central warehousing at all is profitable; as for example, in Arizona and New Mexico where the national forests are so widely dispersed and the quantities of goods required is relatively so small that local purchases as needs arise are ordinarily most economical and the warehouses at Denver or elsewhere can be drawn upon for items which those warehouses can furnish most economically.

Purchasing and warehousing to meet the demands of forest-fire work is most important in the national-forest regions which include western Montana, northern Idaho, Oregon, Washington, and California. It has been found profitable to maintain two important warehouses within the limits of the national-forest region which includes Montana and northern Idaho. These warehouses, however, serve more territory than the region in which they are located.

The Forest Service supply depot maintained for many years at Ogden, Utah, for the purchase and distribution of stationery and standard articles which are widely used, is being moved to a new location on San Francisco Bay at which point it will be practicable to conduct with one organization and one set of facilities the service to all national forests which has been carried on heretofore from Ogden and also to add the purchasing and warehousing facilities which are expected to result in material economy in connection with forest-fire work, road construction, and similar activities in the national forests of California and southern Oregon.

To a considerable extent the economy with which centralized purchasing, warehousing, and distributing functions is carried on by the Forest Service is due to the fact that a great deal of flexibility in assignment of personnel is possible and is regularly practiced. Instead of a force having no other duty except that of purchasing, warehousing, and distributing, these duties are ordinarily carried on by employees who combine such work with other administrative, clerical, or construction duties; the employees involved swing from one class of work to the other and back again according to the exigencies and the rise and fall in the demands of the different activities which they are qualified to perform.

Except for the tools and supplies which are held in central warehouses to be sent out over a region or a part of a region as emergency fire-fighting demands may dictate, the centralized purchasing and warehousing of supplies and equipment is conducted by the Forest Service on a "pay as you get" basis. This means that the cost of personnel and other expenses incident to purchasing, warehousing,

and distribution must be met from a surcharge which is added to the original cost of the materials and met by charges against the allotments of funds made to the consuming units by which the supplies were requisitioned. This general method sets in motion forces which insure economy in requisitioning of commodities by consuming units and makes certain the practice of good financial management throughout all the intricate business of furnishing supplies and equipment needed for productive work. If there is inefficiency in the management of a central purchasing and warehousing unit, the surcharge which is automatically required to cover such inefficiency is subjected to immediate and forceful criticism from responsible managers of consuming units of the Forest Service. Furthermore, at any time the consuming units can procure cheaper elsewhere than from the central warehouses, they are permitted to do so, which furnishes a further incentive to the warehouse organization to keep its costs down to the minimum.

If purchasing and warehousing were to be centralized in Washington or in any other one point by the Forest Service or any other agency serving the Forest Service, practically no difference would result in Forest Service expenditures necessary for purchasing and warehousing as now organized. The over-all cost would doubtless increase. Orders have to originate on the consuming units and nothing is gained by transmitting orders and other paper transactions through more agencies than are necessary in order to consolidate purchases sufficiently to get most favorable rates from manufacturers and producers and in order to get the benefits of shipment in carload lots. When it is profitable to do so, orders for the entire Forest Service are handled in one large pool. For example, orders for tentage and specialized fire equipment which has to be manufactured to order, are regularly consolidated for all consuming units by the officer in charge of the Ogden or Oakland supply depot for the entire Forest Service and purchase and distribution is made at one time for the entire Forest Service. Needs for motor equipment and road-construction machinery are likewise determined on consuming units and covered by requisitions which are transmitted through regular executive channels and pooled by the Washington office of the Forest Service which handles such purchases for the entire Forest Service. Whenever possible, and the delay will not be too disadvantageous, purchase of motor equipment needed by the entire Forest Service is consolidated with purchases of such equipment for the entire Department of Agriculture. The delay and additional expense which is unavoidable with greater pooling and consolidation of purchases, constitutes a disadvantage which must be weighed against the expectation of lower prices offered by manufacturers for larger orders.

Warehouses are strategically located with respect to transportation facilities (railroads and main highways) in the territory served.

Wherever practicable, supplies and equipment purchased are shipped directly from manufacturer to consuming units, thus avoiding the expense of warehousing and reshipment.

A great deal of study has been given to the subject and it is believed that the present location of warehouses and degree of centralization represents the best balance between the opposing factors involved. To decentralize further would increase investments and cost of handling. To centralize further would entail undue sacrifice in the



speed and quality of service required by the activities involved. The volume of business of each warehouse, as shown in other reports, is sufficient to permit direct purchases from manufacturers and packers and also carload shipments of main items.

The service rendered by warehouses involves making shipments of equipment which is often specially packed, tools for improvement work which are often specialized and fire-fighting supplies assembled in special units and containers for man or pack-mule transportation. For example, early experience indicated the imperative need for highly specialized rations which can be carried on the backs of fire guards or in the saddlebags of mounted men when they are sent individually or in pairs to newly discovered forest fires. These rations must be on hand in practically every fire guard station throughout the national forests in order that they may be ready for instant use; but they must be so prepared that if unused for many months they will still be palatable and safe for use by men while undergoing the exhausting labor of searching out and combating small fires. These rations, assembled in packages each of which contains food for 1 man for 1 day, are prepared by and shipped from the Missoula warehouse of the Forest Service to about 200 points throughout the entire United States, Alaska, and Hawaii for use of governmental and cooperative agencies. This highly specialized item of food supply is assembled and shipped by the Missoula warehouse because it can be secured in this way at a lower price than is possible in any other way. The rations require especially prepared food materials, containers, and packing in order that they may meet the requirements of the work as to keeping qualities under adverse conditions, minimum weight and volume, minimum difficulty in preparation for consumption, etc.

*Accounting and auditing.*—The primary function of accounting is to furnish the managerial organization data essential to effective management and control of the business. Accounting should be adapted to the organization, rather than having the organization designed to fit a preconceived accounting procedure.

The Forest Service is a decentralized organization. Its work is primarily performed locally or regionally and most of it must be handled with a degree of promptness that does not permit of reference to the Forester or by a forest to the regional forester; consequently extensive delegation of authority with commensurate responsibility has been found essential to the best administration of the forests. Experience has shown that this form of organization, by reduction of "red tape" and the more direct application of effort to accomplishment, lowers the cost of operation, and makes it possible to confine the general administration to a relatively small unit. To carry out the principle of decentralization, it is essential that the local officials have direct control of the funds allotted to their respective units, which necessarily presupposes a local accounting record adequate to the effective control of funds and avoidance of overobligation. The centralization of fund accounting in the Washington office of the Forest Service was discontinued about 25 years ago because it was found to be entirely unsuited to the needs of the Forest Service. An attempt was made about 10 years ago to centralize the cost accounting in Washington on the theory that immediate local contact with

such records did not appear to be so necessary to proper administration as access to fund accounting records. This centralization required some increase in the Washington personnel, although the work was done principally on Hollerith machines that were already in use for other purposes. It did not result in any noticeable saving in the time required to perform the work on the forests and it caused a considerable increase in the work of the regional offices, much of which was taken care of through overtime rather than an increase in personnel. Accuracy suffered. The local organization, having intimate knowledge of the use of the funds, necessarily made the original distribution. Having no local records, any errors that occurred were not discovered until brought to attention through obvious erroneous results as shown by the final statistics, and then only in the event that the error was great enough to attract attention. After several years' trial of centralization, the cost accounting recently was returned to the forests where, without an increase in personnel, it has been readily absorbed by an organization already heavily burdened, which indicates that there is little difference between the amount of work necessary in the local office under the centralized and decentralized plans. In addition, the work can be handled locally with much greater accuracy and facility than in Washington. The Forest Service is strongly opposed to again centralizing its accounting either in the Washington and regional offices of the Forest Service or in some disconnected organization. As previously indicated, if it were practicable to again centralize this accounting, such change would not reduce the work of the forest and regional personnel for the reason that the time required to submit the data to the central organization would be almost, if not quite, as great as that required to do the accounting locally. Moreover, if the time devoted to this work were entirely eliminated, the reduction in man-hours in most local offices would not be sufficient to be reflected in reduction of personnel. Our past experience in connection with this and other matters has been that the farther the final action is removed from the source, the more expensive it becomes and the more attention it requires. Briefly, centralization is found to be in a large measure the cause of red tape.

*Disbursing and collecting.*—From superficial consideration it would appear that centralization of disbursing and collecting functions might effect a considerable reduction in cost. In actual practice this has not been the case. The Forest Service has several regional offices in which disbursements for the region are made. In the eastern region and in the Forester's office disbursements are not made by forest personnel, but are centralized in the Department disbursing office; in spite of this the amount of fiscal and related work in these two offices is as great as in those regions where the disbursing function is also performed by the regional office. Based upon the knowledge of the work in the disbursing and nondisbursing offices in the past, I have no hesitancy in saying that the disbursing for the eastern region and the Forester's office could be absorbed by the present personnel at no additional cost whatever and probably with some reduction in the work of the Department disbursing office.



ADMINISTRATION, PROTECTION, IMPROVEMENT, REFORESTATION, AND  
EXTENSION OF NATIONAL FORESTS

Aside from the general overhead and facilitating functions which have already been treated, the functions of the Forest Service fall into three main divisions. One division is indicated by the heading above this paragraph. The others which will be treated later are research in forestry and protection and reforestation of other than national forest lands.

The national forest project or major division of the work of the Forest Service is primarily a matter of direct and complete correlated management of timber and forage producing land. The actual work involved takes many forms and occurs in varying volumes on different national forests or portions of national forests. One important characteristic is that the requirements of different subprojects such as timber use or protection work vary widely by different seasons of the year. Of necessity, all the work required in the correlated management of national forest land is carried out by one organization which must have the largest degree of flexibility in order to swing its resources of time and other facilities from one type of work to another in accordance with variations in seasonal and other demands. Under some circumstances a district ranger who is the local manager in charge of national forest operations on a tract of land varying from 50,000 to 500,000 acres, may on one of his carefully planned trips devote time to every one of the subprojects listed under the heading of administration, protection, etc., of national forests. More commonly the district ranger will, on a single planned trip, devote attention to three or four of these subprojects or activities. Inspectors and supervisory officers from the national forest headquarters, regional or Washington offices of the Forest Service, may act as experts or specialists in some particular line but more commonly cover a number or all of the activities involved in any given ranger district. Direct and complete line responsibility runs from the district ranger up through the forest supervisor, regional forester to the Chief Forester in Washington. From 2 to 10 ranger districts as conditions may dictate are under the supervision of a single forest supervisor. Each regional office supplies supervision, leadership, and inspection for an average of 16 national forests.

Under some circumstances the time and effort of men from all grades and nearly all kinds of work are concentrated on such tasks as fire suppression. When adverse weather conditions wrest a small fire from the fire guards who have been dispatched to it, anywhere from 100 to 1,400 men must be assembled and effectively employed at the earliest possible moment if the spread of the fire is to be stopped. Such emergencies may and do occur at unpredictable moments during the various periods of forest-fire danger on practically all national forests. Preparation for effective action in such emergencies is one of the major considerations dominating policy, organization, and functioning of the entire Forest Service. To the extent that any fire emergency may require it, the first duty of every employee is fire fighting. Timber and range survey crews and experts and specialists of all kinds must, without exception, drop their regular work when they are needed for fire fighting and they are expected to give a good account of themselves on fire fighting jobs to which they may be

assigned. Road, trail, and improvement crews under the control of the Forest Service are always selected with an eye to fitness of the men for fire fighting and whenever possible such crews are given the same annual training in fire work as is given to regular fire guards. These road, trail, and improvement crews, because of the fact that they are composed of picked men already working in organized groups, have proved invaluable in large fire emergencies. A 10-man road crew may be and often is equal to a 200-man unorganized and untrained crew hurriedly recruited from a labor center for fighting a large fire. After all trained and organized men have been hurried to a fire, the men in such road and improvement crews constitute an indispensable source of trained and experienced foremen and straw bosses to direct the work of additional temporary employees when additional men have to be recruited from labor centers.

On the other hand, fire guards and lookout men who are employed especially for fire duty, are shifted to improvement work whenever a rainy period occurs during the fire season and such men are therefore not needed on fire duty for a few days. Insofar as possible, men perform fire duty and improvement work at the same time; as when a lookout man keeps watch for fire but also works on a lookout cabin being constructed on his mountain peak; or when a fire guard works on a pasture fence at his station but keeps near him an extension bell on emergency wire so that he may be called at any moment when it may be necessary to dispatch him to a fire.

District rangers, forest supervisors, and other executive employees already on the ground manage all sorts of construction work in connection with their other duties at a fraction of the cost which would be necessary if road, trail, and other improvement work were managed by a separate personnel having no other duty to take them into the territory involved.

#### RESEARCH IN FORESTRY

America is facing enormous problems in forest-land use and in permanently meeting forest requirements. The Forest Research Act approved May 22, 1928 (45 Stat. 699-702), provides a comprehensive coordinated program to supply the scientific foundation to meet these problems, particularly:

1. Productive use of forest land in the United States which aggregates about one fourth of our entire land area. This includes growing of wood and other forest products sufficient to meet American requirements which are now nearly half of the world requirements. It also includes making lands most effective for watershed protection and for assuring satisfactory production and use of the forage and other forest resources. It includes the reforestation of millions of acres of abandoned or submarginal agricultural land. Productive use is important because the permanence of forest industries depends absolutely upon continuous wood supply.

2. Aid in making timber growing profitable through more efficient manufacture and utilization and in providing the public most economically with needed forest products. The enlargement of merchantable yields of lumber and other forest products, the utilization of waste and of species now considered inferior or worthless, and the development of new uses and improved practices.

3. The development of sound economic forest-land policies, Federal, State, regional, etc.

The Federal Government has a very direct and definite responsibility for solving the technical problems involved in formulating sound policies and courses of action on the national forests. Beyond this it has a vital responsibility in solving problems national and regional in scope, which concern forest resources both public and private.

A fundamental characteristic of the broad field of forest research is the close interrelationship that exists between the different classes of studies. The forest itself is a complex biological unit. Forest land is a multiple-use resource important for timber production, watershed protection, recreation, for forage and wild-life production, and for many miscellaneous minor uses. Intelligent and efficient forest management depends upon a basic knowledge of these varying aspects in their relations to each other. The character and effect of many economic factors must be associated and correlated with the biological factors in order to determine the appropriate intensity of forestry practice, the correlation between public and private ownership, and the formulation of policies and programs of action.

Extensive cooperation has been developed in handling all phases of the investigations with States, counties, municipalities, industries, and private agencies. Actual expenditures by many of these cooperating agencies are not available.

Only through a comprehensive, closely coordinated and unified program of forest investigation can the basis be secured for intelligent forestry and for making efficient use of our present and potential forest resources. This essential coordination and unification of research is secured by carrying forward the several classes of research at 12 regional forest experiment stations and the Forest Products Laboratory, a national institution, all coordinated under the research branch of the Forest Service.

The research of the Forest Service is broadly classified as follows:

*Forest-management investigations.*—Forest-management investigations are designed to determine how to grow, manage, and protect from fire timber stands of valuable tree species which are found under a wide variety of conditions throughout the country. They aim to determine how best to reforest thousands of acres of denuded, eroding, and submarginal agricultural land in all parts of the country. They aim to work out methods of converting the ragged and inferior forest and brush cover found on large areas of fire-swept and mismanaged lands into rapidly growing forests of desirable species. They aim to determine those methods of cutting and logging which will permit the rapid and natural reforestation of the 10,000,000 acres of forest land cut over annually. They aim to determine for the many complex forest types of the United States their rate of growth so that the forest owner may determine how much wood may be removed from his forest annually under sustained yield. They aim also to furnish the basis for determining how many acres of forest are needed to maintain a mill on a perpetual basis and thereby assist in the stabilization of wood-manufacturing plants, and in maintaining the social and economic values of the forest.

The work includes studies of how best to prevent and to control forest fires that annually burn over some 40,000,000 acres and cause losses of over \$60,000,000. Investigations are also made to determine



how to better existing methods of detecting fires, of organizing fire control forces, and how to increase the speed of attack so that the area burned over will be kept at a minimum figure.

*Forest range investigations.*—This research aims to develop improved methods of management for forest ranges. It includes studies in restoring and maintaining the stand of valuable native forage plants and methods of grazing them to afford stable, profitable livestock production; practical methods for artificial reseeding of depleted ranges; harmonizing grazing management with timber production and watershed protection; and reducing fire hazard by grazing. Application of results have already brought more economical production and savings of several millions of dollars annually to the range livestock industry through improved range feed, safeguards against drought, etc. The work is basic to the production of an important product of the 334,000,000 acres of forest land within the United States which are grazed, and hence to national forest administration and to forest-land use in general.

*Forest watershed-protection investigations.*—The purpose of forest watershed-protection investigations is to determine the effect of forest, brush, or other wild and natural cover upon erosion and upon stream flow. It is to determine whether such vegetative cover may be used as the major means of obtaining satisfactory conditions of water flow and of controlling erosion on watersheds. It is to determine how to conserve moisture for the growing of forest and forage crops, and to deliver the maximum amounts of usable water for irrigation, municipal use, power, navigation, etc. It is to make waste lands productive, to protect against destructive floods, and to safeguard public and private works.

*Forest products investigations.*—Research in forest products is designed to increase the value of the forest crop through improvements in wood utilization, the development of new uses for wood, and the utilization of waste and of tree species now considered inferior or worthless. The work includes, for example, the strength properties of wood, improved methods of fabrication and design, wood preservation by chemicals to prevent decay and decrease inflammability, painting and gluing of wood, pulp, and paper making possibilities of various woods, improved methods of seasoning wood, and methods of cutting to improve the stand and to assist in the profitable and permanent management of forest properties. The expansion and diversification of the markets for timber crops are vital to the profitable and most economically efficient use of our forest land, and especially in justifying the expense and effort involved in bringing large additional areas of land not needed for agriculture into forest production.

*Forest economics investigations.*—These studies deal with the economic factors which control the use of forest land for producing timber and for other major forest-land products or services. Specific factors or problems being studied include the costs of forestry measures and the returns derived from them; means of aiding and stimulating the development of forestry on privately owned lands; the trends of prices for timber and timber products; the situation as to tax-delinquent forest land; and coordinating public and private responsibilities and activities in ownership and use of forest land. Such studies are fundamental to solving the difficulties confronting

forest-land ownership and management, both public and private, and to coordinating policies and plans for forest use with other major uses, such as agriculture.

*Forest taxation and insurance investigations.*—The property tax has long been recognized as an important obstacle to the best use of forest properties in the United States. Many States, over a long period, have tried unsuccessfully to devise satisfactory systems of forest taxation. This work by the Forest Service is a thorough investigation of existing conditions for the purpose of developing practicable and equitable methods that will both equitably coordinate the tax burden on forest properties with that on other classes of property and be adapted to the peculiar requirements of timber growing. Reform in forest taxation vitally affects the management of privately owned forest land from the public interest standpoint, and the coordination between public and private ownership and management of forest land. The work in forest insurance has for its purpose the determination of sound principles and practicable methods of forest insurance as a needed stimulus to better private forest-land management.

*Forest survey of the United States.*—The function of this project is a complete field inventory of the extent, location, and condition of forest lands of the United States; the determination of the quantity, kinds, quality, and availability of timber now standing on these lands; the rate of depletion through cutting, fire, insects, disease, and other causes; the current and probable future rate of timber growth and the productive capacity of our forest area; and the present and probable future requirements for forest products in the different parts of the country by all classes of consumers; all for the purpose of making the most economically sound use of our forest-land resource plus the possibility of using for forest purposes large areas of submarginal farm land. The data obtained are basic to the formulation of policies, national and regional; and to the development of forestry and the most effective use of forest land in the United States.

#### FOREST PRODUCTS LABORATORY BUILDING CONSTRUCTION

This building was constructed at Madison, Wis., to provide adequate facilities for the forest products laboratory. It was completed during the fiscal year 1933.

#### PROTECTION AND REFORESTATION OF OTHER THAN NATIONAL FOREST LANDS

The Forest Service cooperates with 37 States and 1 Territory in the protection of State and privately owned land from fire. About 228 million acres of forest land are so protected, approximately one quarter of the cost being borne by the Federal Government. Actual protection work is carried on by State organizations or owner associations.

The functions of the Forest Service are to make surveys and reports as to the need for fire protection in the several States, and to recommend fire-protection systems suitable to State needs when so requested by State officials; to pass on the protection systems initiated by the States and to enter into agreements for cooperation when the State

systems are acceptable; to see to it that the Federal funds and the cooperative State and private funds are used for the purposes intended; and to furnish technical advice and assistance in conduct of the protection work.

In many cases State and privately owned land adjoins, or intermingled with, national forests. Where this situation exists, the States and private protection associations cooperate with national forest officers in exchange of services for the common protection of all of the land involved.

The Forest Service also cooperates with 38 States and 2 Territories in the production and distribution of forest planting stock to farmers, through a small contribution of about \$2,000 annually per State and through technical advice and assistance.

Both in protection of forest lands from fire and in forest planting the results of Forest Service research work and of the experience and knowledge gained on the national forests are made available to State and owner organizations. In some instances State and private organizations also cooperate with the Forest Service in the conduct of experimental work, the results of which are needed for protection and other forestry practices.

E. A. SHERMAN,  
*Acting Forester.*



## STATEMENT 2

## FUNCTIONS

	Number of em- ployees	Annual expenditures					Statutory authority
		Salaries, wages	Other	From appro- priated funds	From other funds		
					Amount	Source	
GRAIN FUTURES ADMINISTRATION							
General administration 1.....	15.0	\$38, 148	\$5, 697	\$43, 845	None	-----	U.S.C., title 7, secs. 1-17.
Personnel administration.....						-----	Do.
Purchasing and warehousing.....						-----	Do.
Accounting and auditing.....						-----	Do.
Disbursing and collecting.....						-----	Do.
Projects, activities, etc.....	50.4	123, 028	26, 867	149, 895	None	-----	Do.
Total.....	65.4	161, 176	32, 564	193, 740	None	-----	
Field activities.....	50.4	123, 028	26, 867	149, 895	None	-----	Do.
BUREAU OF HOME ECONOMICS							
General administration.....	10.0	20, 640	1, 280	21, 920		-----	U.S.C. title 5, secs. 511, 512; acts June 5, 1924, 43 Stat. p. 455; July 7, 1932, 47 Stat. p. 639.
Personnel administration.....	1.3	2, 760	100	2, 860		-----	Do.
Accounting and auditing.....	1.7	2, 820	100	2, 920		-----	Do.
Projects, activities, etc.....	68.0	154, 861	54, 358	209, 219		-----	Do.
Total.....	81	181, 081	55, 838	236, 919		-----	
Home economics information.....	6	12, 080	12, 154	24, 234		-----	Do.
Foods and nutrition:							
Utilization of food products.....	10	23, 240	12, 121	35, 361		-----	Do.
Studies in human nutrition.....	11	22, 060	9, 302	31, 362		-----	Do.
Composition of foods.....	6	14, 100	1, 952	16, 052		-----	Do.
Institutional cookery.....			2, 081	2, 081		-----	Do.
Household management and standards of living:							
Standards of living.....	3.3	11, 792	2, 271	14, 063		-----	Do.
Family budgets.....	4	7, 560	1, 481	9, 041		-----	Do.
Food consumption.....	6	15, 660	1, 899	17, 559		-----	Do.

<sup>1</sup> General administration is included with the project in all budget figures.

## FUNCTIONS—Continued

	Number of employees	Annual expenditures				Statutory authority
		Salaries, wages	Other	From appro- priated funds	From other funds	
				Amount	Source	
BUREAU OF HOME ECONOMICS—con.						
Household management and standards of living—Continued.	5. 7	\$10, 230	\$1, 406	\$11, 636		U. S. C. title 5, secs. 511, 512; acts June 5, 1924, 43 Stat. p. 456; July 7, 1932, 47 Stat. p. 639.
Housekeeping efficiency studies.	1	2, 700	1, 873	4, 573		Do.
Household equipment studies.	10	25, 766	4, 234	30, 000		Do.
Textiles and clothing:	5	3, 584	3, 584	13, 257		Do.
Cotton utilization						
Wool utilization						
Total	68	154, 861	54, 358	209, 219		
LIBRARY						
General administration.	1. 0	4, 600		4, 600		Salaries and expenses, library.
Personnel administration.						Do.
Purchasing and warehousing.						Do.
Accounting and auditing.	. 7	1, 522		1, 522		Do.
Disbursing and collecting.						Do.
Projects, activities, etc.	36. 0	66, 511	37, 483	103, 994		Do.
Total	37. 7	72, 633	37, 483	110, 116		
Administration and business service.	7. 2	10, 855	6, 987	17, 842		Do.
Acquisition of publications by purchase, etc.	10. 9	20, 265	30, 496	50, 761		Do.
Classifying, cataloging, etc.	8. 7	18, 200		18, 200		Do.
Use of the library	9. 2	17, 191		17, 191		Do.
Total	36. 0	66, 511	37, 483	103, 994		
BUREAU OF PLANT INDUSTRY						
General administration.	77. 7	137, 234	11, 634	148, 868		Agricultural Appropriation Act for 1932.
Personnel administration.	2. 0	5, 000		5, 000		Do.
Purchasing and warehousing.	7. 3	12, 335		12, 335		Do.
Accounting and auditing.	22. 0	43, 900		43, 900		Do.
Disbursing and collecting.	27. 0	36, 600		36, 600		Do.
Projects, activities, etc.	3, 148. 0	4, 001, 877	1, 352, 343	5, 354, 220		Do.
Total	3, 264. 0	4, 206, 946	1, 363, 977	5, 570, 923		



Arlington farm.....	27.0	57,515	2,375	59,890	-----
Barberry eradication.....	346.0	191,457	104,619	296,086	-----
Blister rust control:					
Eastern control program.....	135.0	163,403	50,363	213,766	-----
Western control program.....	400.0	198,952	71,699	260,651	-----
Botany:					
Economic botany.....	7.0	21,023	1,582	22,605	-----
Weed investigations.....	1.0	3,059	3,408	3,408	-----
Blueberry investigations.....	1.0	4,076	4,067	8,143	-----
Grass investigations.....	5.0	14,823	661	15,484	-----
Cereal crops and diseases:					
Small grains.....	216.0	359,371	65,921	425,292	-----
Corn and grain sorghums.....	72.0	109,300	19,310	128,610	-----
Citrus canker eradication.....	16.0	33,857	2,776	36,633	-----
Cotton production and diseases:					
Acclimatization, breeding, and cul-	60.0	104,323	38,915	143,238	-----
tural improvement of cotton.					
Cotton diseases.....	21.0	31,438	21,924	53,362	-----
Egyptian cotton breeding.....	7.0	18,179	6,310	24,489	-----
Drug and related plants:					
Drug, poisonous and oil plants.....	15.0	31,115	3,212	34,327	-----
Downy mildew of hops.....	8.0	10,389	5,894	16,283	-----
Dry-land agriculture:					
Dry-land crop production.....	132.0	140,310	41,051	181,361	-----
Dry-land fruit and vegetable pro-	19.0	28,407	7,252	35,659	-----
duction.					
Cooperative shelter - blet demon-	22.0	28,109	8,129	36,238	-----
strations and experimental test					
plantings.					
Forage crops and diseases:					
Alfalfa.....	33.0	55,194	15,002	70,196	-----
Red and sweet clover.....	31.0	30,037	4,638	34,675	-----
Soybeans.....	19.0	23,040	6,615	29,655	-----
Sorghums.....	7.0	7,652	1,315	8,967	-----
Winter legumes, green manures, and	19.0	30,753	10,535	41,288	-----
acid tolerant legumes.					
Pastures, grasses, and fine turf.....	47.0	63,935	17,045	80,980	-----
Foreign plant introductions:					
Foreign explorations.....	5.0	19,734	10,093	29,827	-----
Experimenters' service.....	243.0	148,932	31,862	180,794	-----
Plant geography.....	3.0	7,920	294	8,214	-----
Forest pathology:					
Diseases of forest trees and forest	46.0	89,366	31,520	120,886	-----
products.					
Diseases of shade trees, shrubs, and	23.0	53,441	14,559	68,000	-----
chestnut orchards.					
Tree disease emergencies.....	10.0	19,934	15,000	34,934	-----

<sup>2</sup> Part-time employees.<sup>3</sup> Balance of salaries carried under project to which officers attached.

## FUNCTIONS—Continued

	Number of employees	Annual expenditures					Statutory authority
		Salaries, wages	Other	From appropriated funds	From other funds		
					Amount	Source	
BUREAU OF PLANT INDUSTRY—CON.							
Fruit and vegetable crops and diseases:							
Apple, peach, and other orchard fruit production, improvement, and disease control in the Northern and Central States.	119.0	\$176,929	\$86,362	\$263,291			
Citrus, date, and other subtropical fruit production, improvement, and disease control in the South.	58.0	115,105	44,416	159,521			
Grape, berry, and other small fruit production, improvement, and disease control.	59.0	85,562	41,109	126,671			
Pecan, walnut, almond, and other nut production, improvement, and disease control.	56.0	98,500	54,702	153,202			
Vegetable production, improvement, and disease control (except potatoes).	120.0	188,299	69,575	257,874			
Nursery stock, bulb, and ornamental plant production, improvement, and disease control.	56.0	89,395	27,268	116,663			
Potato production, improvement, and disease control.	45.0	71,611	20,570	92,181			
Storage, transportation, and utilization of fruits and vegetables.	89.0	190,276	77,066	267,342			
Gardens and grounds.	62.0	91,619	6,401	98,020			
Genetics and biophysics.	13.0	31,741	4,527	36,268			
Mycology and disease survey:							
Epidemiology and disease survey.	10.0	23,054	7,553	30,607			
Mycological collections.	7.0	16,764	5,663	22,327			
Mushroom investigations.	4.0	4,980	1,010	5,990			
Nematology:							
A study of the nature, distribution, and treatment of diseases caused by certain nemas; studies concerning fibers and living cells.	18.0	43,176	6,115	49,291			
A study of the mermithidae, a large and important group of nemas infesting insects.	2.0	2,638	1,662	4,300			

Phony peach eradication.....	34.0	51,041	26,665	77,706	
National Arboretum.....	2.0	1,208		2,151	
Plant nutrition.....	5.0	14,036	3,728	17,764	
Rubber, fiber, and other tropical plants: Acclimatization and adaptation of crops from tropical regions.....	21.0	31,480	13,936	45,416	
Rubber production investigations.....	31.0	39,458	15,920	55,378	
Fiber plant investigation.....	8.0	22,141	9,131	31,272	
Seed investigations:					
Seed testing.....	18.0	39,707	8,354	48,061	
Federal Seed Act.....	9.0	22,056	3,778	25,834	
International Seed Testing Congress.....			250	250	
Sugar plant investigations:					
Sugarcane investigations.....	53.0	83,900	37,738	121,638	
Sugar-beet investigations.....	105.0	188,943	80,974	269,917	
Tobacco investigations.....	38.0	69,107	20,929	90,036	
Western irrigation agriculture:					
Agronomic investigations on irrigation projects.....	91.0	89,646	51,501	141,147	
Boron investigations.....	17.0	25,510	9,609	35,119	
Irrigation and ground water investigations.....	2.0	4,941	101	5,042	
Total.....	3,148.0	4,001,877	1,352,343	5,354,220	
BUREAU OF PLANT QUARANTINE					
General administration.....	25.10	53,574	11,212	64,786	
Personnel administration.....	2.00	4,160	250	4,410	
Purchasing and warehousing.....	10.85	21,700	37,390	59,090	
Accounting and auditing.....	26.56	55,293	2,596	57,889	
Disbursing and collecting.....	2.89	5,486	664	6,150	
Projects, activities, etc.....	4,488.50	2,591,884	618,854	3,210,738	
Total.....	4,555.90	2,732,097	670,966	3,403,063	
Enforcement of foreign plant quarantines:					
Import and permit service.....	28.00	67,970	1,883	69,853	
Port inspection service.....	175.40	264,264	27,501	291,765	
Mexican border inspection service.....	100.00	199,894	78,979	278,873	
District of Columbia inspection service.....	12.00	31,960	793	32,753	
Field inspection permit material.....	2.50	7,109	6,075	13,184	
Hawaiian inspection service.....	33.90	15,626	2,620	18,246	
Puerto Rican inspection service.....	8.00	17,102	3,137	20,239	
Total.....	359.80	603,925	120,988	724,913	

U.S.C., title 5, secs. 511, 512; title 7, secs. 141-167;  
U.S.C., supp. V, title 7, secs. 146, 161, 164a, 165a;  
Agricultural Appropriation Act Feb. 23, 1931, vol. 46,  
pp. 1271, 1272.

Do.  
Do.  
Do.  
Do.  
Do.

Do.  
Do.  
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Do.  
Do.  
Do.

## FUNCTIONS—Continued

	Number of em- ployees	Annual expenditures					Statutory authority
		Salaries, wages	Other	From appro- priated funds	From other funds		
					Amount	Source	
BUREAU OF PLANT QUARANTINE—con.							
Transit inspection.....	18. 10	\$34, 438	\$7, 752	\$42, 190			U.S.C., title 5, secs. 511, 512; title 7, secs. 141-167; U.S.C., supp. V, title 7, secs. 146, 161, 164a, 165a; Agricultural Appropriation Act Feb. 23, 1931, vol. 46, pp. 1271, 1272.
Control and prevention of spread of pink bollworm.	412. 40	269, 712	76, 290	346, 002			Do.
Control and prevention of spread of Parlatoria date scale.	36. 75	56, 842	6, 199	63, 041			Do.
Control and prevention of spread of Thureberia weevil.	6. 80	18, 940	4, 754	23, 694			Do.
Control and prevention of spread of gypsy and brown-tail moths.	466. 00	468, 431	113, 165	581, 596			Do.
Control and prevention of spread of European corn borer.	2, 091. 80	669, 600	148, 679	818, 279			Do.
Control and prevention of spread of Japanese beetle.	769. 85	307, 362	87, 305	394, 667			Do.
Control and prevention of spread of blister rust.	2. 80	7, 295	2, 270	9, 565			Do.
Control and prevention of spread of phony peach disease.	4. 40	7, 940	3, 446	11, 386			Do.
Control and prevention of spread of the Mexican fruit fly.	290. 30	89, 049	34, 521	123, 570			Do.
Certification of exports.	9. 00	21, 500	38	21, 538			Do.
Mediterranean fruit fly.....	17. 50	25, 234	11, 382	36, 616			Do.
Technological work.....	3. 00	11, 616	2, 065	13, 681			Do.
Total.....	4, 483. 50	2, 591, 884	618, 854	3, 210, 738			
BUREAU OF PUBLIC ROADS							
General administration.....	148. 0	279, 424	51, 395	330, 819			
Personnel administration.....	2. 0	5, 060	400	5, 460			
Purchasing and warehousing.....	30. 0	58, 290	10, 286	68, 576			
Accounting and auditing.....	70. 0	142, 529	9, 098	151, 627			
Projects, activities, etc.	5, 230. 0	3, 777, 659	203, 809, 870	206, 060, 996	1, 526, 533		
Total.....	5, 480. 0	4, 262, 962	203, 881, 049	206, 617, 478	1, 526, 533		



Highway investigations.....	12.0	6,940	847	7,787			U. S. C., title 5, secs. 511-512.
Federal-aid highway system.....	1,610.0	1,994,928	127,311,673	129,306,601			U. S. C., title 23, secs. 1-54.
Aid granted to States, E. C. 1931.....			58,912,432	58,912,432			46 Stat. 1031.
Public lands highway, E. C. 1931.....	16.0	25,664	1,922,849	1,922,849			U. S. C., supp. V, title 23, sec. 3.
Mount Vernon Memorial Highway.....	589.0	233,544	1,962,139	2,195,683			45 Stat. 895; 46 Stat. 427, 1563.
Flood relief funds:							
Florida.....			76,053	76,053			46 Stat. 1563.
Georgia and South Carolina.....	1.0	2,150	1,152,652	1,154,802			46 Stat. 872, 1276.
Alabama.....	1.0	151	30,803	30,994			46 Stat. 84, 1276.
Vermont, New Hampshire, and Kentucky.....			140,570	140,570			45 Stat. 570.
Missouri, Mississippi, Louisiana, and Arkansas.....			678,118	678,118			45 Stat. 1381-1382.
Buildings, Government Island, Calif.....	33.0	33,925	90,896	124,821			46 Stat. 1563.
Bureau of Public Roads cooperative in- vestigations.....	22.0	8,211	1,314				41 Stat. 234, 270.
Forest road funds:				9,525			
Forest highways.....	2,730.0	1,378,721	7,876,926	9,255,647			U. S. C., title 16, sec. 503.
Forest road development.....	13.0	11,608	96,336	107,944			Do.
Roads and trails for States, N. F. F.....	9.0	2,993	18,147	21,140			U. S. C., title 16, sec. 501.
Cooperative work—Forest Service.....	173.0	73,945	1,443,063				U. S. C., title 16, sec. 498.
Highways within national forest, E. C., 1931.....	19.0	4,879	2,075,052	2,078,931			46 Stat. 1031.
Total.....	5,230.0	3,777,659	203,809,870	206,060,996		1,526,533	
OFFICE OF EXPERIMENT STATIONS							
Administrative expense:							
General administration.....	50.0	144,207	9,811	154,018			U. S. C., title 5, secs. 511, 512; title 7, secs. 361-366, 368-371, 373-382; U. S. C., supp. V, title 7, sec. 386f; act of Feb. 23, 1931 (46 Stat. 1245, 1246).
Projects, activities, etc.....	147.6	161,419	4,460,490	4,621,909			Do.
Total.....	197.6	305,626	4,470,301	4,775,927			
Payments to States, Hawaii, and Alaska:							
Act of Mar. 2, 1887.....			750,000	750,000			U. S. C., title 7, secs. 301-308, 362, 363, 365, 368, 377-379; act of Feb. 23, 1931 (46 Stat. 1245).
Act of Mar. 16, 1906.....			750,000	750,000			U. S. C., title 7, sec. 369, acts of Mar. 16, 1906 (34 Stat. 63) and Feb. 23, 1931 (46 Stat. 1245).
Act of Feb. 24, 1925.....			2,880,000	2,880,000			U. S. C., title 7, secs. 361, 366, 370, 371, 373-376, 380, 382; act of Feb. 23, 1931 (46 Stat. 1245).
Act of May 16, 1928.....			22,000	22,000			U. S. C., supp. V, title 7, secs. 386-386b; act of Feb. 23, 1931 (46 Stat. 1245).
Act of Feb. 23, 1929.....			15,000	15,000			U. S. C., supp. V, title 7, sec. 386c; act of Feb. 23, 1931 (46 Stat. 1245).



## FUNCTIONS—Continued

	Number of employees	Annual expenditures				Statutory authority	
		Salaries, wages	Other	From appropriated funds	From other funds		
					Amount		Source
OFFICE OF EXPERIMENT STATIONS—CON.							
Salaries and general expenses, insular experiment stations:							
Alaska.....	15. 10	\$37,686	\$15,104	\$52,790		Act of Feb. 23, 1931 (46 Stat. 1245, 1246).	
Hawaii.....	26. 80	35,736	6,247	41,983		Do.	
Puerto Rico.....	50. 60	42,511	11,194	53,705		Do.	
Guam.....	30. 50	23,541	4,187	27,728		Do.	
Virgin Islands.....	24. 60	21,945	6,758	28,703		Do.	
Total.....	147. 60	161,419	4,460,490	4,621,909			
BUREAU OF EXTENSION SERVICE							
General administration.....	4. 40	15,850	967	16,817			
Personnel administration.....	3. 50	6,900		6,900			
Projects, activities, etc.....	2,444. 19	1,470,611	8,865,416	10,336,027			
Total extension service.....	2,452. 09	1,493,361	8,866,383	10,359,744			
State payments:							
Cooperative agricultural extension work, permanent annual Smith-Lever.....			4,605,866	4,605,866		U. S. C., title 7, secs. 341-348; U. S. C., title 7, secs. 341-348 and Agriculture Appropriation Act; U. S. C., supp. V, title 7, secs. 343a, 343b; U. S. C., supp. V, title 7, sec. 386c, Agriculture Appropriation Act.	
Supplementary Smith-Lever.....			1,580,000	1,580,000		Do.	
Capper-Ketcham.....			1,480,000	1,480,000		Do.	
Alaska.....			10,000	10,000		Do.	
Additional cooperative extension work.....			986,600	986,600		Do.	
Total State payments.....			8,662,466	8,662,466			
Cooperative extension work.....	12,311. 69	1,197,986	121,544	1,319,530		Do.	
Economic extension work.....	8. 50	24,541	19,509	44,050		Do.	
Reclamation demonstrations.....	2 19. 00	39,100		39,100		Do.	
Motion pictures.....	25. 10	52,654	29,067	81,721		Do.	

Agricultural exhibits at fairs.....	42.90	90,929	31,031	121,960	Do.
Cooperative farm forestry.....	37.0	65,401	1,799	67,200	U.S.C., title 16, secs. 564-570.
Total.....	2,444.19	1,470,611	202,980	1,673,561	
Grand total.....	2,444.19	1,470,611	8,865,416	10,336,027	
OFFICE OF INFORMATION					
General administration.....	2.0	10,400		10,400	
Personnel administration.....	.6	1,536		1,536	
Projects, activities, etc. (summary of details shown below).	190.0	373,381	1,016,167	1,389,548	U.S.C., title 5, secs. 511, 512; act May 27, 1930, vol. 46, pp. 394, 395.
Total.....	192.6	385,317	1,016,167	1,401,484	Do.
Salaries and general expenses:					
Office of director.....	3.0	10,620	885	11,505	Do.
Personnel and business administration.....	9.3	11,123	2,084	13,207	Do.
Mail and files.....	11.9	17,418	705	18,123	Do.
Publications management.....	4.8	15,460	3,937	19,397	Do.
Editorial.....	7.0	21,739	268	22,027	Do.
Indexing.....	3.0	10,460	124	10,584	Do.
Illustrations.....	11.0	23,020	980	24,000	Do.
Photographic.....	14.2	28,892	3,368	32,260	Do.
Printing.....	4.9	11,741	127	11,868	Do.
Mailing lists.....	7.0	12,392	135	12,527	Do.
Distribution.....	33.3	58,032	3,068	61,100	Do.
Addressing, duplicating, and mailing.....	53.8	84,838	10,813	95,651	Do.
Press service.....	16.3	41,586	1,049	42,635	Do.
Radio service.....	8.5	26,040	1,624	27,664	Do.
Total.....	190.0	373,381	29,167	402,548	
Printing and binding:					
General printing.....			812,859	812,859	U.S.C., title 44, secs. 111, 212-220, 222, 224, 241, 244, 257; act Feb. 23, 1931, vol. 46, p. 1244.
(Includes job work and binding periodicals, reports, and publications; research and technical publications; and popular publications, with the exception of Farmers' Bulletins.)					
Farmers' Bulletins.....			171,226	171,226	Do.
Emergency field printing.....			2,915	2,915	Regulation No. 24 of the Joint Committee on Printing.
Total.....			987,000	987,000	

<sup>1</sup> Includes 2,191 extension agents cooperatively employed with States and counties.

<sup>2</sup> 19 reclamation agents cooperatively employed with States.

<sup>3</sup> Includes 36 extension foresters cooperatively employed with States.

## FUNCTIONS—Continued

	Number of employees	Annual expenditures				Statutory authority	
		Salaries, wages	Other	From appropriated funds	From other funds		
					Amount		Source
WEATHER BUREAU							
General administration.....	44 1/4	\$85,890	\$5,056	\$90,946	-----	Appropriation Act for the Department of Agriculture.	
Personnel administration.....	2 3/4	5,900	350	6,250	-----	Do.	
Purchasing and warehousing.....	14	26,040	1,566	27,606	-----	Do.	
Accounting and auditing.....	16	31,660	1,740	33,400	-----	Do.	
Projects, activities, etc.....	4,050	2,923,776	1,047,729	3,971,505	-----	Do.	
Total.....	4,127	3,073,266	1,056,441	4,129,707	-----		
Meteorological observations and reports.							
General forecasts and warnings.....	431	577,854	263,018	840,872	-----	Do.	
Climatology.....	303	398,601	155,603	554,204	-----	Do.	
Agricultural meteorology.....	291	420,755	200,139	620,894	-----	Do.	
River and flood service.....	435	67,960	9,572	77,532	-----	Do.	
Marine meteorology.....	1,101	185,327	30,567	215,894	-----	Do.	
Forest fire-weather warning service.....	233	70,524	10,914	81,438	-----	Do.	
Solar radiation.....	8	18,826	16,671	35,497	-----	Do.	
Fruit-frost service.....	2	7,500	604	8,104	-----	Do.	
Harvest weather and fruit-spray service.....	23	27,597	8,898	36,495	-----	Do.	
Aerological observations and reports.....	2	4,942	2,038	6,980	-----	Do.	
Aviation forecasts and warnings.....	22	40,735	29,015	69,750	-----	Do.	
Commercial airways meteorological service.....	5	10,405	7,631	18,036	-----	Do.	
Aerological survey of the United States.....	1,184	1,072,815	298,261	1,371,076	-----	Do.	
Total.....	10	19,935	14,798	34,733	-----	Do.	
Total.....	4,050	2,923,776	1,047,729	3,971,505	-----		

<sup>4</sup> Includes 2,633 wage employees paid at rates varying from 25 cents an observation to \$100 a month.

List of officers and employees in the Department of Agriculture receiving compensation at the rate of \$5,000 or more per annum

Name	Designation	Annual compensation		Brief description of duties
		Base pay	Allowances	
Wallace, Henry A.	Secretary of Agriculture.	\$15,000	-----	Controls and supervises work of Department.
Woods, Albert F.	Director of scientific work.	9,000	-----	Initiates, reviews, and coordinates Department's scientific and research activities.
Warburton, Clyde W.	Director of extension work.	9,000	-----	General charge of development and coordination of extension work.
Mohler, John R.	Chief of bureau.	8,500	-----	In charge of Bureau of Animal Industry.
McDonald, Thomas H.	do.	8,500	-----	In charge Bureau of Public Roads.
Campbell, Walter G.	Chief, Food and Drug Administration.	8,500	-----	Plans, organizes, and directs work of Food and Drug Administration.
Thomas, Seth.	Solicitor.	8,000	-----	Legal adviser to Secretary. Directs and supervises Department's law work.
Tugwell, Rexford G.	Assistant Secretary of Agriculture.	8,000	-----	Assists in general supervision of work of Department.
Redington, Paul G.	Chief of bureau.	8,000	-----	In charge Bureau of Biological Survey.
Knight, Henry G.	do.	8,000	-----	In charge Bureau of Chemistry and Soils.
Reed, Olie E.	do.	8,000	-----	In charge Bureau of Dairy Industry.
Olsen, Nils A.	do.	8,000	-----	In charge Bureau of Agricultural Economics.
Mariatt, Charles L.	do.	8,000	-----	In charge Bureau of Entomology.
Stuart, Robert Y.	Chief, Forest Service.	8,000	-----	General supervision of Forest Service.
Taylor, William A.	Chief of bureau.	8,000	-----	In charge Bureau of Plant Industry.
Marvin, Charles F.	do.	8,000	-----	Chief of U. S. Weather Bureau.
Fairchild, Fred R.	Taxation economist.	18,000	-----	In charge forest taxation inquiry.
March, Herman W.	Special consulting mathematician.	18,000	-----	Consultant on higher mathematical problems.
Stockberger, Warren W.	Director of personnel and business administration.	8,000	-----	Directs and supervises Department's personnel and business administration.
Kitchen, Clarence W.	Assistant chief of bureau.	7,500	-----	Assistant Chief of Bureau of Agricultural Economics (regulatory activities).
Browne, Charles A.	do.	7,000	-----	Assistant Chief of Bureau of Chemistry and Soils.
Englund, Eric.	do.	7,000	-----	Assistant Chief Bureau of Agricultural Economics (research activities).
Sherman, Edward A.	Associate Chief, Forest Service.	7,000	-----	General supervision of bureau.
Duvel, Joseph W. T.	Chief of bureau.	7,000	-----	In charge grain futures administration.
Stanley, Louise	do.	7,000	-----	In charge Bureau of Home Economics.
Strong, Lee A.	do.	7,000	-----	In charge Bureau of Plant Quarantine.
Eisenhower, Milton S.	Director of information.	7,000	-----	Supervises and coordinates the preparation and dissemination of all agricultural information.
Kellerman, Karl F.	Associate chief.	7,000	-----	Associate Chief of Bureau of Plant Industry.
Houck, Ulysses G.	do.	6,500	-----	Associate Chief Bureau of Animal Industry and chief, hog cholera division.
McOrroy, Samuel H.	Chief of bureau.	6,500	-----	Supervises and directs activities of Bureau of Agricultural Engineering.
Rohrer, Siebert A.	Assistant chief of bureau.	6,500	-----	Assistant Chief Bureau of Entomology.
Ezekiel, Mordecai J. B.	Economic advisor.	6,500	-----	Economic advisor to the Secretary.
Jardine, James T.	Chief.	6,500	-----	Chief Office Experiment Stations.
Flory, Charles H.	Regional forester.	6,500	-----	General supervision region no. 8.
Granger, Christopher M.	Head forest economist.	6,500	-----	Director, Forest Survey.

1 Intermittent service.



List of officers and employees in the Department of Agriculture receiving compensation at the rate of \$5,000 or more per annum—Continued

Name	Designation	Annual compensation			Brief description of duties
		Base pay	Allowances	Total	
Henderson, Walter C.	Associate chief.	\$6,400	—	\$6,400	Associate Chief Bureau of Biological Survey.
McCall, Arthur G.	Principal soil scientist.	6,400	—	6,400	Chief of Soil Investigation.
Foley, Edward A.	Agricultural attaché.	6,400	—	6,400	In charge London, England, office, Division of Foreign Agricultural Service.
Dunbar, Paul B.	Assistant chief of administration.	6,400	—	6,400	Assistant Chief of Food and Drug Administration.
Worthley, Leon H.	Principal administrative officer.	6,400	—	6,400	In charge corn borer and Japanese beetle control work.
Auchter, Eugene C.	Principal horticulturist.	6,400	—	6,400	In charge Division of Horticultural Crops and Diseases.
Boykin, Lester E.	Principal administrative officer.	6,400	—	6,400	Chief Division of Contracts and Laws.
Hewes, Laurence I.	Principal highway engineer.	6,400	—	6,400	Deputy chief engineer in charge of districts nos. 1, 2, 3, 11, and 12, and Hawaii-Federal aid park and road work.
Johnson, Junius W.	do.	6,400	—	6,400	District engineer in charge Federal-aid work and forest and park road work, district no. 3.
Toms, Raymond E.	do.	6,400	—	6,400	Chief Division of Design.
Wilson, Philip St. J.	do.	6,400	—	6,400	Chief Engineer of Public Roads.
Smith, Clarence B.	Principal agriculturist.	6,400	—	6,400	Assistant director and chief cooperative extension work.
Callander, William F.	Principal agricultural statistician.	6,200	—	6,200	In charge Division of Crop and Livestock estimates, chairman, Crop Reporting Board.
Gray, Lewis C.	Principal agricultural economist.	6,200	—	6,200	In charge, Division of Land Economics.
Holmes, Clarence L.	do.	6,200	—	6,200	In charge, Division of Farm Management and Costs.
Stine, Oscar C.	do.	6,200	—	6,200	In charge, Division of Statistical and Historical Research.
Hoyt, Avery S.	Assistant chief of bureau.	6,200	—	6,200	Assistant Chief Bureau of Plant Quarantine.
Garnier, Wightman W.	Principal physiologist.	6,200	—	6,200	In charge, Division of Tobacco and Plant Nutrition.
McCalt, Haven.	Principal pathologist.	6,200	—	6,200	In charge, Division of Forest Pathology.
Scott, Carl S.	Principal agriculturist.	6,200	—	6,200	In charge of western irrigation agriculture.
Bishop, Hubert S.	Principal highway engineer.	6,200	—	6,200	Chief, Division of Construction.
Bright, Joseph S.	do.	6,200	—	6,200	Construction engineer, forest and national parks, West.
James, Edwin W.	do.	6,200	—	6,200	Chief, Division of Highway Transport.
Lynch, William H.	do.	6,200	—	6,200	District engineer in charge of Federal-aid road work and forest and park road work, district no. 1.
Yoshell, James T.	do.	6,200	—	6,200	District engineer in charge of Federal-aid road work, district no. 7.
Clark, Charles C.	Assistant chief of bureau.	6,200	—	6,200	Assistant Chief, U.S. Weather Bureau.
Rogers, Lore A.	Principal bacteriologist.	6,200	—	6,200	Chief, Division of Dairy Research Laboratories.
Dorset, Marion.	Principal biochemist.	6,000	—	6,000	Chief, Biochemic Division.
McLaughlin, Walter W.	Principal irrigation engineer.	6,000	—	6,000	Chief, Division of Irrigation.
Stinner, William W.	Principal chemist.	6,000	—	6,000	Assistant chief, Chemical and Technological Research.
Blank, Frederick C.	do.	6,000	—	6,000	Chief, Food Research Division.
Marbut, Ours F.	Principal soil scientist.	6,000	—	6,000	Chief, Soil Survey Division.
Selbach, Oswald.	Principal biochemist.	6,000	—	6,000	Chief, Soil Fertility Division.
Volck, Fletcher P.	Principal chemist.	6,000	—	6,000	Chief, Industrial Farms Products Division.
Michael, Louis G.	Agricultural attaché.	6,000	—	6,000	In charge Belgrade, Yugoslavia Office, Division of Foreign Agricultural Service.

Agricultural commissioner.		6,000	6,000	6,000	6,000	6,000	Research and investigations incident to development Foreign Agricultural Reporting Services.
Nyhus, Paul O.	Principal marketing specialist.	6,000	6,000	6,000	6,000	6,000	In charge, Division of Cotton Marketing.
Palmer, Arthur W.	do.	6,000	6,000	6,000	6,000	6,000	In charge, Division of Dairy and Poultry Products.
Portis, Roy C.	do.	6,000	6,000	6,000	6,000	6,000	In charge, Division of Fruits and Vegetables.
Sherran, Wells A.	Agricultural attaché.	6,000	6,000	6,000	6,000	6,000	In charge, Berlin, Germany, office of Division of Foreign Agricultural Service.
Steele, Lloyd V.	Principal marketing specialist.	6,000	6,000	6,000	6,000	6,000	In charge, Kobe, Japan, office of Division of Foreign Agricultural Service.
Taylor, Fred	do.	6,000	6,000	6,000	6,000	6,000	In charge, Division of Livestock, Meat, and Wool.
Whalin, Charles V.	do.	6,000	6,000	6,000	6,000	6,000	In charge, Warehouse Division (administration of United States Warehouse Act).
Yule, H. Stanford	Principal chemist.	6,000	6,000	6,000	6,000	6,000	Develops cooperation with State officials, coordinates State and Federal activities.
Friskie, Walter S.	Chief of district.	6,000	6,000	6,000	6,000	6,000	Directs work of eastern inspection district.
Wharton, William R. M.	do.	6,000	6,000	6,000	6,000	6,000	Directs work of western inspection district.
Vincent, Wendell	Principal forester.	6,000	6,000	6,000	6,000	6,000	Chief, branch of forest management.
Carter, Edward E.	do.	6,000	6,000	6,000	6,000	6,000	Chief, branch of research.
Clapp, Earle H.	do.	6,000	6,000	6,000	6,000	6,000	Chief, branch of public relations.
Morrell, Fred W.	do.	6,000	6,000	6,000	6,000	6,000	Chief, branch of engineering.
Norcross, Theodore W.	Principal engineer.	6,000	6,000	6,000	6,000	6,000	Chief, branch of operation, Forest Service.
Headley, Roy	Principal administrative officer.	6,000	6,000	6,000	6,000	6,000	Chief, branch of lands, Forest Service.
Kneipp, Leon F.	do.	6,000	6,000	6,000	6,000	6,000	Chief, branch of range management, Forest Service.
Rachford, Chris E.	do.	6,000	6,000	6,000	6,000	6,000	General supervision, region no. 1, Forest Service.
Kelley, Evan W.	Regional forester.	6,000	6,000	6,000	6,000	6,000	General supervision, region no. 2, Forest Service.
Peck, Allen S.	do.	6,000	6,000	6,000	6,000	6,000	General supervision, region no. 3, Forest Service.
Pooler, Frank C. W.	do.	6,000	6,000	6,000	6,000	6,000	General supervision, region no. 4, Forest Service.
Rutledge, Richard H.	do.	6,000	6,000	6,000	6,000	6,000	General supervision, region no. 5, Forest Service.
Show, Stuart B.	do.	6,000	6,000	6,000	6,000	6,000	In charge, Lake States forest experiment stations.
Zon, Raphael	Director forest experiment station.	6,000	6,000	6,000	6,000	6,000	Investigation of technical forestry practices in Europe.
Ringland, Arthur C.	Principal forestry specialist.	6,000	6,000	6,000	6,000	6,000	General supervision of laboratory.
Winslow, Carille P.	Director forestry products laboratory.	6,000	6,000	6,000	6,000	6,000	Assistant to director forest products laboratory.
Hawley, Lee F.	Principal chemist.	6,000	6,000	6,000	6,000	6,000	Chief section, timber mechanics.
Newlin, John A.	Principal engineer.	6,000	6,000	6,000	6,000	6,000	Consultant engineering problems involving wood use.
Roark, Raymond J.	Senior engineer.	16,000	6,000	6,000	6,000	6,000	In charge of Chicago office, grain futures administration.
Fitz, Leslie A.	Principal grain exchange supervisor.	6,000	6,000	6,000	6,000	6,000	Sterilization and disinfection of plants.
Hawkins, Lon A.	Principal physiologist.	6,000	6,000	6,000	6,000	6,000	Chief, division of foreign plant quarantines.
Sassoor, Ernest R.	Principal entomologist.	6,000	6,000	6,000	6,000	6,000	In charge gypsy moth control work.
Burgess, Albert F.	do.	6,000	6,000	6,000	6,000	6,000	In charge division of cotton, rubber, and other tropical plants.
Cook, Orator F.	Principal botanist.	6,000	6,000	6,000	6,000	6,000	In charge of research on development of boron resistance citrus stocks.
Swingle, Walter T.	Principal physiologist.	6,000	6,000	6,000	6,000	6,000	Chief, division of management in Bureau of Public Roads.
Allen, T. Warren	Principal highway engineer.	6,000	6,000	6,000	6,000	6,000	Chief, division of control, Bureau of Public Roads.
Curtiss, Charles D.	do.	6,000	6,000	6,000	6,000	6,000	Chief, division of information, Bureau of Public Roads.
Fairbank, Herbert S.	do.	6,000	6,000	6,000	6,000	6,000	District engineer in charge Federal aid work and forest and park road work, district no. 12.
Finch, Burtis J.	do.	6,000	6,000	6,000	6,000	6,000	District engineer in charge Federal aid work and forest and park road work, district no. 2.
Kelley, Earl F.	Principal structural engineer.	6,000	6,000	6,000	6,000	6,000	Assistant director of personnel and business administration and department budget officer.
Sweetser, Charles H.	Principal highway engineer.	6,000	6,000	6,000	6,000	6,000	Principal meteorologist in charge of forecast division.
Jump, W. Ashby	Principal administration officer.	6,000	6,000	6,000	6,000	6,000	Principal meteorologist and forecaster, Washington forecast district.
Calvert, Edgar B.	do.	6,000	6,000	6,000	6,000	6,000	Principal meteorologist and forecaster, San Francisco forecast district.
Mitchell, Charles L.	do.	6,000	6,000	6,000	6,000	6,000	
Bowie, Edward H.	do.	6,000	6,000	6,000	6,000	6,000	

<sup>1</sup> Intermittent service.



List of officers and employees in the Department of Agriculture receiving compensation at the rate of \$5,000 or more per annum—Continued

Name	Designation	Annual compensation		Brief description of duties
		Base pay	Allowances	
Cline, Isaac M.	Principal meteorologist.	\$6,000	—	Principal meteorologist and forecaster, New Orleans forecast district.
Sherler, Julius W.	do.	6,000	—	Principal meteorologist and forecaster, Denver forecast district.
Miller, Arthur W.	Assistant chief of bureau	5,800	—	Assistant chief of Bureau and Chief, Packers and Stockyards Division.
Thom, Charles	Principal mycologist.	5,800	—	Chief, Soil Mycobiology Division.
Graves, Roy R.	Principal specialist in dairy-cattle breeding.	5,800	—	Chief, Division of Dairy Cattle Breeding, Feeding, and Management.
Becker, Joseph A.	Principal agricultural statistician.	5,800	—	In charge estimates on grain, hay, and miscellaneous crops and consulting research statistician.
Besley, Harold J.	Principal marketing specialist.	5,800	—	In charge Grain Division (enforcement United States Grain Standards Act).
Galpin, Charles I.	Principal agricultural economist.	5,800	—	In charge Division of Farm Population and Rural Life.
Marquis, John C.	Principal administration officer.	5,800	—	In charge Division of Economic Information.
Molz, Frederick A.	Principal marketing specialist.	5,800	—	Research and investigational work of foreign marketing of fruits and vegetables.
Wheeler, William A.	do.	5,800	—	In charge Division of Hay, Feed, and Seed.
Craighead, Frank C.	Principal entomologist.	5,800	—	Chief, Division of Forest Insects.
Larimer, Walter H.	do.	5,800	—	Chief, Division of Cereal and Forage Insects.
Baker, James C.	do.	5,800	—	In charge Mexico City laboratory for investigation of fruit flies.
Clarke, Arthur O.	Chief of district.	5,800	—	Directs work of central inspection district.
Howard, Burton J.	Principal microscopist.	5,800	—	Chief of Microanalytical Division.
Kirscher, Joseph C.	Regional forester.	5,800	—	General supervision, region no. 7.
Hall, R. Clifford	Principal forester.	5,800	—	Assistant to director, forest taxation inquiry.
Heinzelmann, B.	Assistant regional forester.	5,800	—	Chief forest management, research, and water power, region no. 8.
Frank	do.	5,800	—	Chief operation, lands and roads, region no. 8.
Merritt, Melvin L.	Regional forester.	5,800	—	General supervision, region no. 9.
Tinker, Earl W.	Principal engineer.	5,800	—	Consultant, pulp and paper investigations.
Heritage, Clark.	do.	5,800	—	Assistant Chief of Bureau of Plant Industry.
Allanson, Henry E.	Assistant chief of bureau	5,800	—	Directs and conducts research on tree diseases.
Beattie, R. Kent.	Principal pathologist.	5,800	—	In charge, Division of Sugar Plant Investigations.
Brades, Elmer.	do.	5,800	—	In charge, Division of Botany.
Coville, Fred V.	Principal botanist.	5,800	—	In charge, Division of Blister Rust Control.
Detwiler, Samuel B.	Principal pathologist.	5,800	—	Research in cereal crop production.
Harlan, Harry V.	Principal agronomist.	5,800	—	Responsibility for fruit disease investigations.
Waite, Merton B.	Principal pathologist.	5,800	—	In charge research of fruit improvement through bud selection.
Shamel, Archibald D.	Principal physiologist.	5,400	\$400	Leader of northern group of field stations, dry-land agriculture.
Stephens, John M.	Principal agriculturist.	5,800	—	District engineer in charge of Federal-aid road work, district no. 10.
Peirce, Vernon M.	Principal highway engineer.	5,800	—	District engineer in charge of Federal-aid road work, district no. 5.
Shoemaker, Clifford	do.	5,800	—	Assistant solicitor.
Boyle, Charles W.	Principal attorney.	5,800	—	Supervises legal work connected with food and drug, meat inspection, etc.
Cronin, Patrick D.	do.	5,800	—	Supervises legal work connected with national forests.
Lees, Fred.	do.	5,800	—	Supervises legal work under Weeks Forestry Act.
McConville, Arthur H.	do.	5,800	—	Associate chief and in charge southern cooperative extension work.
Evans, James A.	Principal agriculturist.	5,800	—	

Farrell, George E.	do.	5,800	In charge cooperative extension work, Central States.
Beall, Walter H.	Principal chemist.	5,800	Associate in experiment station administration and assistant chief.
Youngblood, Bonney	Principal agricultural economist.	5,800	Associate in experiment station administration and specialist in agricultural economics and rural sociology.
Humphreys, William J.	Principal meteorologist.	5,800	In charge meteorological physics and editor of Monthly Weather Review
Scarr, James H.	Principal meteorologist.	5,800	Principal meteorologist in charge of New York office.
Brown, D. Tucker	Senior highway engineer	4,600	Engineer in charge inter-american highway reconnaissance survey.
Hall, Maurice C.	Principal zoologist.	5,600	Chief, Zoological Division, Bureau Animal Industry.
MacKellar, William M.	Principal veterinarian.	5,600	Chief, Tick Eradication Division, Bureau Animal Industry.
Cotton, William E.	do.	5,600	Superintendent animal disease work at experimental farm.
Pope, George W.	do.	5,600	Chief, Field Inspection Division, Bureau Animal Industry.
Schoening, Harry W.	do.	5,600	Chief, Pathological Division, Bureau Animal Industry.
Sheets, Earl W.	Principal animal husbandman.	5,600	Chief, Animal Husbandry Division.
Skidmore, Don I.	Principal veterinarian.	5,600	Chief, Division of Virus Serum Control.
Steddom, Rice P.	do.	5,600	Chief, Meat Inspection Division.
Wright, Alexander E.	do.	5,600	Chief, Tuberculosis Eradication Division, Bureau Animal Industry.
Henrici, Hermann C.	Principal valuation engineer	5,600	Principal valuation engineer of public stockyards for rate-making purposes.
Ashbrook, Frank G.	Principal biologist.	5,600	In charge Division of Fur Resources, Bureau Biological Survey.
Bell, William B.	do.	5,600	In charge Division of Biological Investigations.
McAtee, Waldo L.	do.	5,600	In charge Division of Food Habits Research, Bureau Biological Survey.
Young, Stanley P.	do.	5,600	In charge Division of Rodent and Predatory Animal Control, Bureau Biological Survey.
Sheldon, Harold P.	United States game conservation officer.	5,600	In charge Division of Game and Bird Conservation.
Jones, David B.	Principal chemist.	5,600	Chief, Protein and Nutrition Division, Chemistry and Soils.
Roark, Ruric C.	do.	5,600	Chief, Insecticide Division, Chemistry and Soils.
Byers, Horace G.	do.	5,600	Chief, Soil Chemistry and Physics Division, Chemistry and Soils.
Hercock, Horace T.	do.	5,600	Chief, Color and Farm Waste Division, Chemistry and Soils.
Kunsman, Charles H.	Principal physicist.	5,600	Acting chief fertilizer and fixed nitrogen investigations.
Paine, Howard S.	Principal engineer.	5,600	Chief, Carbohydrate Division, Chemistry and Soils.
Price, David J.	Principal engineer.	5,600	Chief, Chemical Engineer Division, Chemistry and Soils.
Dawson, Owen L.	Agricultural commissioner.	5,600	In charge Shanghai China Office, Division of Foreign Agriculture Service, Bureau of Agricultural Economics.
Edminister, Lynn R.	Principal agricultural economist.	5,600	Investigation and analysis of Government aid to agriculture in foreign countries.
Harlan, Charles L.	Principal livestock statistician.	5,600	Acts as livestock statistical consultant for bureau, in charge livestock estimates.
Bell, Raymond W.	Principal dairy manufacturing specialist.	5,600	Chief, Division of Dairy Manufacturing Investigations and Introduction.
Hutson, John B.	Principal marketing specialist.	5,600	Research and investigational work of foreign marketing of tobacco.
Myles, Rutherford	do.	5,600	In charge general field headquarters, grain division.
Paxton, Edward C.	Agricultural commissioner.	5,600	In charge Sydney Australia office, Division of Foreign Agricultural Service.
Ray, Glenn S.	do.	5,600	In charge Buenos Aires Argentina office, Division of Foreign Agricultural Service.
Robb, Francis G.	Principal marketing specialist.	5,600	Associate division leader, fruits and vegetables division; in immediate charge enforcement Perishable Agricultural Commodities and Produce Agency Acts.
Taylor, Clifford	Agricultural attaché.	5,600	In charge Pretoria, South Africa division of Foreign Agricultural Service.
Back, Ernest A.	Principal entomologist.	5,600	Chief, Division of Stored Product Insects.
Bishop, Fred C.	do.	5,600	Chief, Division of Insects Affecting Man and Animals.
Harned, Robey W.	do.	5,600	Chief, Division of Cotton Insects.
Van Dine, Delos L.	do.	5,600	Chief, Division of Fruit and Shade Tree Investigations.

<sup>2</sup> Paid by inter-American highway appropriation.

<sup>1</sup> Intermittent service



List of officers and employees in the Department of Agriculture receiving compensation at the rate of \$5,000 or more per annum—Continued

Name	Designation	Annual compensation			Brief description of duties
		Base pay	Allowances	Total	
White, William H.	Principal entomologist	\$5,600		\$5,600	Chief, Division of Truck and Garden Crop Investigations.
Hadley, Charles H.	do	5,600		5,600	In charge Japanese Beetle Investigation.
Crawford, Charles	Principal chemist	5,600		5,600	Administrative supervision, interstate sections, Food and Drug Administration.
Taylor, Alfred E.	do	5,600		5,600	Administrative supervision, imports section, Food and Drug Acts.
Gulien, Frederick J.	Chief of drug control	5,600		5,600	Technical supervision enforcement of Food and Drug Act to drugs.
White, Ward B.	Principal chemist	5,600		5,600	Technical supervision enforcement of Food and Drug Act to foods.
McDonnell, Curtis C.	do	5,600		5,600	Technical supervision enforcement Insecticide Act.
Forsling, Clarence L.	Principal silviculturist	5,600		5,600	In charge Intermountain forest and range experiment station.
Kolob, Edward J.	do	5,600		5,600	In charge California Forest Experiment Station.
Buck, Clarence J.	Regional forester	5,600		5,600	General supervision region no. 6.
Mager, Thornton T.	Principal forest economist	5,600		5,600	In charge Pacific Northwest Forest Experiment Station.
Chapman, Herman H.	Principal forester	1 5,600		5,600	Forest taxation studies.
Eldredge, Inman F.	Principal forest economist	5,600		5,600	In charge forest survey in South.
Hallauer, Frank J.	Principal engineer	5,600		5,600	Requirements study, forest survey.
Kirkland, Burt P.	Principal forest economist	5,600		5,600	Speeding up private forestry and stopping forest devastation.
Curran, Carlton E.	Principal chemist	5,600		5,600	Chief section, pulp and paper in Forest Service.
Hunt, George M.	do	5,600		5,600	Chief section, wood preservation.
Koehler, Arthur	Principal xylogonomist	5,600		5,600	Chief section, silvicultural relations.
Sherratt, Earl W.	Principal engineer	5,600		5,600	Chief section, derived products, Forest Service.
Sheed, Carl V.	do	5,600		5,600	Chief section, industrial investigation in Forest Service.
Thompson, Rolf	do	5,600		5,600	Chief section, of timber physics.
Mehl, Joseph M.	Assistant chief	5,600		5,600	Assistant to chief of Grain Futures Administration.
Kneeland, Hildegarde	Principal economist	5,600		5,600	Chief, Division of Economics in Bureau of Home Economics.
Facker, Stanley B.	Principal plant quarantine administration	5,600		5,600	Chief, Division of Domestic Plant Quarantines.
McDonald, Robert E.	Principal plant quarantine officer	5,600		5,600	In charge pink boll worm and Thuberia weevil control work.
Brooks, Charles	Principal pathologist	5,600		5,600	Research and fruit disease investigation in plant industry.
Brown, Edgar	Principal botanist	5,600		5,600	In charge Division of Seed Investigation.
Collins, Guy N.	do	5,600		5,600	In charge Division of Genetics and Biophysics in Plant Industries.
Coons, George H.	Principal pathologist	5,600		5,600	Research in sugar-beet diseases and breeding.
Corbett, Lee C.	Principal horticulturist	5,600		5,600	Research on stabilization of horticultural production.
Doyle, Conrad B.	Principal agronomist	5,600		5,600	Assistant head of Division of Cotton, Rubber, and Other Tropical Plants.
Fisher, Howard F.	Principal pathologist	5,600		5,600	In charge project fruit and vegetable transportation and storage.
Fulton, Harry	do	5,600		5,600	Research in fruit-disease investigations.
Galloway, Beverly T.	do	5,600		5,600	Scientific consulting specialist in foreign-plant introduction work.
Hartley, Carl P.	do	5,600		5,600	In charge of research activities east of Rocky Mountains, Division of Forest Pathology.

Hitchcock, Albert S.	5, 600	Expert in classification of grasses, charge of Government grass herbarium.
Humphrey, Harry B.	5, 600	Conducts research on cereal-disease control.
Johnson, Aaron G.	5, 600	Supervises pathologic section of cereal research.
Kearney, Thomas H.	5, 600	In charge of Division of Egyptian-Cotton Breeding.
Shollenberger, J. H.	5, 600	Research and investigational work in foreign marketing of grains.
Leighty, Clyde E.	5, 600	In charge of Division of Dry-Land Agriculture.
McCall, Max A.	5, 600	In charge of Division of Cereal Crops and Diseases.
Magnus, John R.	5, 600	In charge of nomological investigations project.
Meyer, Fred C.	5, 600	In charge of Division of Barberry Eradication.
Peters, Adrian J.	5, 600	In charge of Division of Forage Crops and Diseases.
Richey, Fred D.	5, 600	Research in cereal-crop production and improvement.
Ryerson, Knowles A.	5, 600	Research in Division of Foreign-Plant Introduction.
Salmon, Samuel C.	5, 600	Research in cereal-crop production and improvement.
Skuderna, Anton W.	5, 600	In charge agronomic research on sugar beet disease.
Shear, Cornelius L.	5, 600	In charge Division of Mycology and Plant-Disease Survey.
Hille, Jonas E.	5, 300	Supervision of all cotton-field stations in Southwest.
Hildreth, Aubrey C.	5, 300	Superintendent of Cheyenne Horticultural Field Station.
Bruce, Arthur G.	5, 600	Chief, Bridge Division.
Grover, Oscar L.	5, 600	District engineer in charge of Federal-aid road work, district no. 9.
Falen, Archibald E.	5, 600	District engineer in charge of Federal-aid road work, district no. 4.
Snead, Charles D.	5, 600	District engineer in charge of Federal-aid road work, district no. 8.
Spelman, Harold J.	5, 600	In charge of road work in national parks and national forests, Eastern and Southern States.
Swain, Clayton E.	5, 600	District engineer in charge of Federal-aid road work, district no. 6.
Wheeler, Ernest S.	5, 600	In charge of park and Federal-aid work in Hawaii.
Williams, Melvin D.	5, 600	District engineer in charge Federal-aid road work, forest and park road work, district no. 11.
Appleby, Paul H.	5, 600	Assistant to the Secretary of Agriculture.
Graham, A. B.	5, 600	In charge subject matter specialists, cooperative extension work.
Lloyd, William A.	5, 600	In charge, cooperative extension work, Western States and Territories.
Ward, Florence E.	5, 600	In charge, cooperative extension work, Eastern States.
Salsbury, Morse.	5, 600	Chief of Radio Service.
Merrill, Melvin C.	5, 600	Chief of Publications.
McClelland, Thomas B.	5, 400	Director, Puerto Rico Experiment Station.
Gregg, Willis R.	5, 600	Principal meteorologist in charge of Aerological Division.
Hayes, Montrose W.	5, 600	Principal meteorologist in charge of River and Flood Division.
Donnell, Charles A.	5, 600	Principal meteorologist and forecaster in charge of Chicago Forecast District.
Dagger, Golden N.	5, 400	Stockyards and commission rates, registrations and bonds.
Howe, Paul E.	5, 400	Research in animal nutrition and biochemical study animal products.
Miller, Frank W.	5, 400	Trade practice investigations, transactions packers, livestock commission men and dealers.
Terbune, Hugh W.	5, 400	Executive officer of the Alaska Game Commission and chief representative of Biological Survey in Alaska.
Barbot, Wingate P.	5, 400	Chairman, Savannah, Ga., board of cotton examiners.
Gunning, Albert B.	5, 400	Research and investigations relative to special economic research for administration office; responsible for preparation of "Agricultural Situation," issued monthly.
Haggerty, John J.	5, 400	Chairman, New Orleans, La., board of cotton examiners.
Holt, William I.	5, 400	Acting chairman, Charleston, S. C., board of cotton examiners.
Knight, Fred W.	5, 400	In charge, spot-cotton market supervision.

1 Intermitent service.



List of officers and employees in the Department of Agriculture receiving compensation at the rate of \$5,000 or more per annum—Continued

Name	Designation	Annual compensation		Brief description of duties
		Base pay	Allowances Total	
Moley, Guy S.	Senior marketing specialist.	\$5,400	---	In charge cotton linters standardization; investigations of cottonseed and cotton products.
Slade, Harold C.	do	5,400	---	In charge, cotton standards; chairman, final review committee and chairman, appeal board of review examiners.
Valgren, Victor N.	Senior agricultural economist.	5,400	---	Assembling and making available information on problems of agricultural insurance.
Loving, Hamilton I.	Chief accountant and auditor.	5,400	---	Chief, Branch of Finance and Accounts.
Marsh, Raymond E.	Senior forester.	5,400	---	Assistant chief, Research.
Harter, Leonard L.	Senior pathologist.	5,400	---	In charge research on bean diseases.
Robinson, Thomas K.	Senior physiologist.	5,400	---	Research on citrus and tropical fruits.
Stephens, David E.	Senior agronomist.	5,400	---	Superintendent of Moro, Oreg., field station (dry-land cereal experiments).
Hathaway, Erwin O.	Senior highway engineer.	5,400	---	First assistant to district engineer, district no. 4.
Brooke, John C.	Senior attorney.	5,400	---	Legal work under Packers and Stockyards Act.
Diefenbach, Rudolph	Senior land valuation engineer.	5,200	---	In charge, Division of Land Acquisition.
Palmer, Lawrence J.	Senior biologist.	4,960	\$240	In charge of Reindeer and Muskox Experiment Station, College, Alaska.
Bennett, Hugh H.	Senior soil scientist.	5,200	---	In charge, soil-croton investigations.
Fuhrman, Milton H.	Senior dairy husbandman.	5,200	---	Supervisor dairy cattle breeding investigations.
Holm, George E.	Senior chemist.	5,200	---	Supervisor chemical investigations deterioration milk products.
Kelly, Ernest.	Senior market-milk specialist.	5,200	---	Chief, Division of Market-Milk Investigations.
Meigs, Edward B.	Senior physiologist.	5,200	---	Supervising investigations nutrition dairy cows.
Sweet, Walter W.	Senior dairy husbandman.	5,200	---	Supervising investigations physiology of milk secretion of dairy cattle.
Cooper, Martin R.	Senior agricultural economist.	5,200	---	In charge, commodity studies section, Division of Farm Management and Costs; assistant division leader.
Davis, Leon M.	Senior marketing specialist.	5,200	---	In charge, market news service on dairy and poultry products.
Dent, William E.	Senior specialist in cotton classification.	5,200	---	Member, Memphis, Tenn., board of supervising cotton examiners.
Hughes, Fred J.	Senior administrative officer.	5,200	---	Business manager of bureau in charge operating units (personnel, machine tabulating and computing, audits and accounts, graphic, property and supplies, telegraphic, technological investigations, stenographic-vise, mails and files).
Parker, Edward C.	Senior marketing specialist.	5,200	---	Special Investigational and research work on grain and hay standards and inspections.
Poulton, Albert C.	Senior specialist in cotton classification.	5,200	---	Member, Memphis, Tenn., board of supervising cotton examiners.
Loveridge, Earl H.	Senior administrative officer.	5,200	---	Inspection, operation activities.
Munnis, Edward N.	Senior silviculturist.	5,200	---	Chief, Division of Silvics.
Smith, Herbert A.	Senior forester.	5,200	---	Dissemination of forestry information.
Pearson, Gustaf A.	Director, southwest forest and range experiment station.	5,200	---	In charge of station.
Bates, Carlos G.	Senior silviculturist.	5,200	---	Silvicultural investigations.
Bateman, Ernest.	Senior chemist.	5,200	---	Investigations on chemistry of wood.
Garver, Raymond E.	Senior forester.	5,200	---	Assistant Chief, Section Industrial Investigation.
Markwardt, Loraine J.	Senior engineer.	5,200	---	Assistant Chief, Section Timber Mechanics.
Tennam, Harry D.	Senior physicist.	5,200	---	Dry kiln expert.
White, Edgar F.	Senior forester.	5,200	---	Chief, Section, Publication of Results.

Wilson, Thos. R. C.	Senior engineer	5, 200	5, 200	Mathematical analysis research data on mechanical properties of wood.
Andrews, Horace J.	Senior forest economist	5, 200	5, 200	In charge, forest survey R-6.
Brien, Ruth	Senior chemist	5, 200	5, 200	Chief, Division of Textiles and Clothing.
Gilbert, William W.	Senior pathologist	5, 200	5, 200	Assistant to head of Division of Horticulture, in connection with informational activities.
Martin, James F.	do	5, 200	5, 200	Assistant Chief, Division of Blister Rust Control, in charge of eastern control work.
Posey, Gilbert E.	do	5, 200	5, 200	Assistant Chief of Division Blister Rust Control, in charge of western control work.
Roberts, John W.	do	5, 200	5, 200	Research in fruit diseases and orchard diseases.
Elliott, John A.	Senior highway engineer	5, 200	5, 200	First assistant to district engineer, district no. 1. In charge national park and forest roads.
McNary, Joseph V.	Senior highway bridge engineer	5, 200	5, 200	Assistant to chief, Division of Design.
Morris, Charles C.	Senior highway engineer	5, 200	5, 200	First assistant to district engineer, district no. 2. In charge Federal aid and Federal lands (State projects) work.
O'Leary, William J.	Senior administrative officer	5, 200	5, 200	Assistant to Chief, Division of Contracts and Laws.
Simonsen, Wilbur H.	Senior landscape architect	5, 200	5, 200	Engaged in problems of highway design and roadside planting in connection with Federal aid work.
Shearman, Thomas G.	Senior attorney	5, 200	5, 200	Supervises legal work connected with quarantines, Federal aid roads, etc.
Wenchel, John P.	do	5, 200	5, 200	Supervises legal work connected with wild-life conservation, claims, etc.
Jull, Morley A.	Senior poultry husbandman	4, 600	400	In charge poultry section Animal Husbandry Division.
Gray, Roy B.	Senior agriculture engineer	5, 000	5, 000	Chief, Division of Mechanical Equipment.
Jones, Lewis A.	Chief, Division of Drainage and Soil Erosion Control.	5, 000	5, 000	Chief, Division of Drainage and Soil Erosion Control.
Goldman, Edward A.	Senior biologist	5, 000	5, 000	Senior biologist, Division of Biological Investigations.
Ross, William H.	Senior chemist	5, 000	5, 000	In charge, concentrated fertilizer investigations.
DeEds, Floyd	Senior toxicologist	5, 000	5, 000	In charge of pharmacological investigations foods.
Chace, Edward McK.	Senior chemist	5, 000	5, 000	In charge, fruit and vegetable chemistry laboratory.
Brown, Bailey E.	Senior biochemist	5, 000	5, 000	In charge, soil fertility investigation Northeastern States.
Howard, Perry E.	Senior chemical engineer	5, 000	5, 000	Evaluates fertilizer processes and statistics and advises on fertilizer developments.
Whittier, Earle O.	Senior chemist	5, 000	5, 000	Supervision physico-chemical investigations utilization dairy by products.
Agelasto, Alex. M.	Senior marketing specialist	5, 000	5, 000	In charge Cotton Market News and quotation service.
Baker, Oliver E.	Senior agricultural economist	5, 000	5, 000	Research and investigations of needs for agricultural lands and area available for various uses.
Bean, Louis H.	do	5, 000	5, 000	Price analyses; agricultural and business interrelations; general price income trends—prices and production; prices of potatoes; general outlook work.
Church, Verne H.	Senior agricultural statistician	5, 000	5, 000	In charge, Lansing (Mich.) office, Division of Crop and Livestock Estimates.
Crout, Fletcher G.	Senior marketing specialist	5, 000	5, 000	In charge, Atlanta (Ga.) office, administration of U.S. Warehouse Act.
Edler, George C.	do	5, 000	5, 000	In charge, seed verification and reporting service.
Finch, Chester L.	do	5, 000	5, 000	Supervision of administration U.S. Cotton Futures and U.S. Cotton Standards Acts
McCarthy, B. Flor- ens.	do	5, 000	5, 000	In charge, New York (N. Y.) office, Division of Livestock, Meats, and Wool.
Murphy, Edward J.	Senior administrative officer	5, 000	5, 000	Assistant to leader in charge, Grain Division (enforcement U.S. Grain Standards Act)
Myers, Lawrence	Senior agricultural economist	5, 000	5, 000	Statistical analysis relating to cotton, wool, and other textiles; prices and production—general outlook work.
Nielsen, Niels I.	Agricultural commissioner	5, 000	5, 000	In charge, Marseille (France) office, Division of Foreign Agricultural Service.
Shapard, Carl H.	Senior agricultural statistician	5, 000	5, 000	In charge, Austin (Tex.) office, Division of Crop and Livestock Estimates.
Shepard, John B.	do	5, 000	5, 000	In charge milk and dairy estimates and intentions-to-plant estimates.
Walton, William R.	Senior entomologist	5, 000	5, 000	Assistant to Chief of Cereal and Forage Insect Division.
Linton, Fred B.	Senior administrative officer	5, 000	5, 000	Assistant to Chief, supervises financial, personnel, and supply activities.
Fitzwater, Jos. A.	Senior forest inspector	5, 000	5, 000	Assistant Chief, forest management.

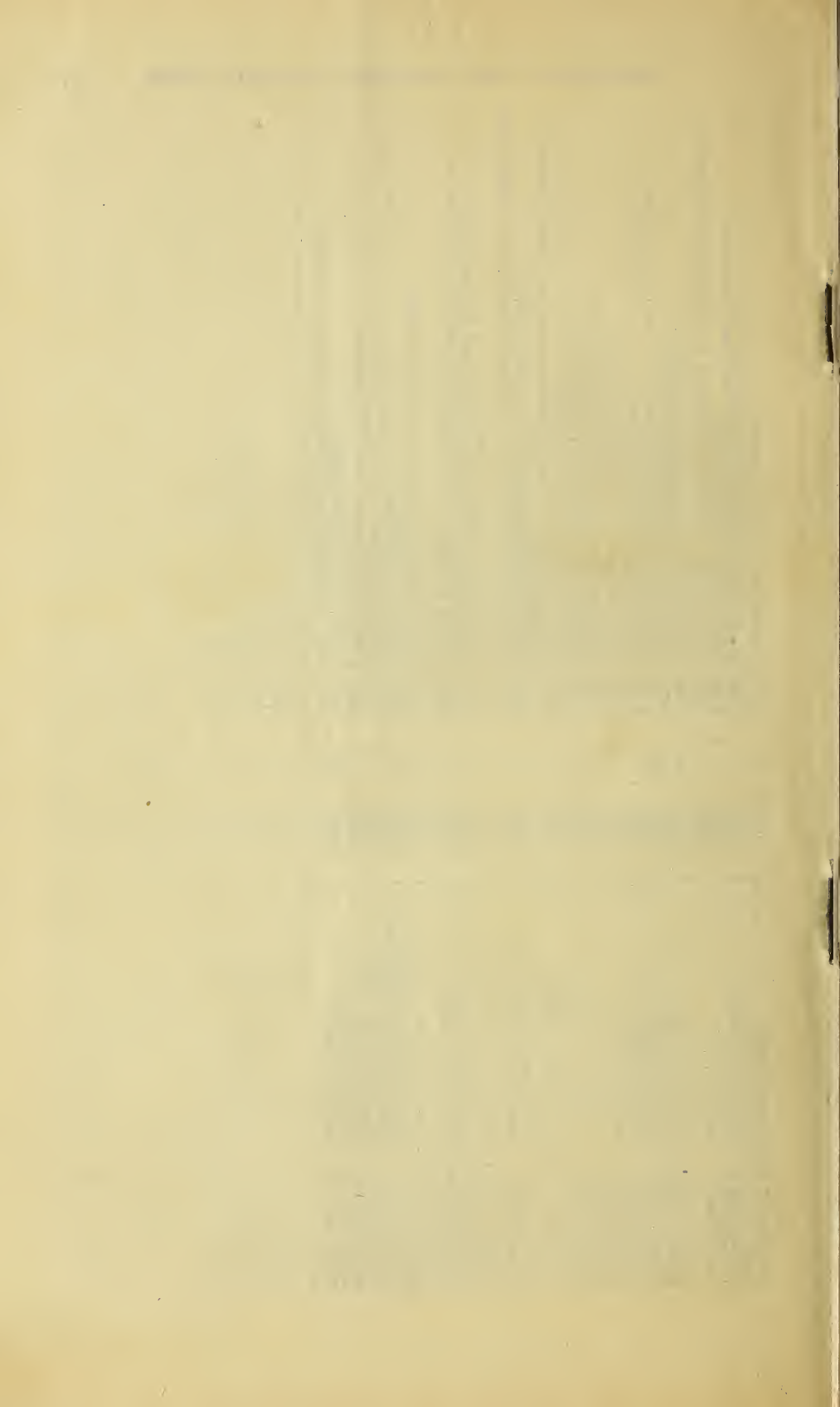
Receives a total salary of \$5,400 of which the State of Oregon pays \$1,250 per annum.



List of officers and employees in the Department of Agriculture receiving compensation at the rate of \$5,000 or more per annum—Continued

Name	Designation	Annual compensation		Brief description of duties
		Base pay	Allowances	
Gibbons, William H.	Senior forester	\$5,000		Research, forest economics.
Hastings, Alfred B.	do	5,000		Chief, Division State Cooperation.
Lautz, George H.	Senior engineer	5,000		Assistant Chief, branch of engineering.
Koch, Elers	Assistant regional forester	5,000		Chief, forest management, R-1.
Smith, Glen A.	do	5,000		Chief, range management, R-1.
Stockdale, Lewis C.	do	5,000		Chief, operation, R-1.
Hutton, John H.	do	5,000		Chief, range management, R-2.
Spencer, John W.	do	5,000		Chief, lands and public relations, R-2.
Shahl, Carl J.	do	5,000		Chief, operation, R-2.
Thompson, Myron W.	do	5,000		Chief, forest management, R-2.
Calhoun, Hugh G.	do	5,000		Chief, operation, R-3.
Cheney, Morton M.	do	5,000		Chief, lands, R-3.
Martin, Joseph P.	do	5,000		Chief, engineering, R-4.
Morse, Chester B.	do	5,000		Chief, forest management, R-4.
Parkinson, Dana	do	5,000		Chief, public relations R-4.
Winkler, Ernest W.	do	5,000		Chief, range management, R-4.
Woods, Clarence N.	do	5,000		Chief, operation, R-4.
Barrett, Louis A.	do	5,000		Chief, lands, R-5.
Deering, Robert L.	do	5,000		Chief, operation, R-5.
Hutchinson, Wallace I.	do	5,000		Chief, public relations, R-5.
Kramer, Edwin	Regional engineer	5,000		Chief, engineering, R-5.
Nelson, Jesse W.	Assistant regional forester	5,000		Chief, range management, R-5.
Smith, Albert W.	Regional fiscal agent	5,000		In charge, fiscal matters, R-5.
Woodbury, True-	Assistant regional forester	5,000		Chief, forest management R-5.
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Ames, Fred R.	do	5,000		Chief, forest management, R-6.
Guthrie, John D.	do	5,000		Chief, public relations, R-6.
Kavanagh, Edward N.	do	5,000		Chief, range management, R-6.
Waha, Alpheus O.	do	5,000		Chief, operation R-6.
Demmon, Elwood R.	Senior silviculturist	5,000		In charge, southern forest experiment station.
Evans, Robie M.	Assistant regional forester	5,000		Chief, forest management, R-7.
Forbes, Reginald D.	Director forest experiment station	5,000		In charge, Allegheny forest experiment station.
Stewart, Guy R.	Senior forest economist	5,000		Study on rehabilitation idle lands in northeastern States.
Tillotson, Claude R.	Senior district forest inspector	5,000		Federal Government and States, Clark-McNary Act.
Brownie, Fred L.	Senior chemist	5,000		Studies, wood finishing and moisture proofing.
Helm, Arthur L.	Senior engineer	5,000		Chief, laboratory operation.
Trayer, George W.	do	5,000		Research engineer, timber mechanics.
Truax, Thomas R.	Senior wood technologist	5,000		Assistant chief, secretary, publication of results.
Mehl, Paul	Senior economist	5,000		Economic investigation and research in grain futures.

McCubbin, Walter A.	Senior pathologist.	5, 000	---	5, 000	Consulting specialist in plant diseases.
Boswell, Victor R.	Senior horticulturist.	5, 000	---	5, 000	Directs and conducts vegetable production and breeding investigation.
Dewey, Lyster H.	Senior botanist.	5, 000	---	5, 000	In charge of fiber plant investigations.
Gould, Harris F.	Senior pomologist.	5, 000	---	5, 000	Assistant to head of Division of Horticulture, in connection with administration of scientific work.
Butterfield, Earl C.	Senior horticulturist.	4, 600	\$400	5, 000	Superintendent of Arlington Experimental Farm.
Collins, J. Franklin.	Senior pathologist.	5, 000	---	5, 000	Research in tree surgery and diseases.
Chilcote, Elery F.	Senior agriculturist.	4, 800	200	5, 000	Leader of Southern group of field stations, Division Dry Land Agriculture.
Cullinan, Frank P.	Senior pomologist.	5, 000	---	5, 000	In charge peach production investigation.
Holbert, James R.	Senior agronomist.	5, 000	---	5, 000	Research on corn crop improvement.
Long, William H.	Senior pathologist.	5, 000	---	5, 000	Research on diseases of ornamental trees and shrubs.
Spaulding, Percy	do.	5, 000	---	5, 000	Research on diseases of forest trees, Northeastern States.
Brown, Levant R.	Senior highway engineer.	5, 000	---	5, 000	In charge Forest and Park road work, District No. 2.
Carpenter, John C.	do.	5, 000	---	5, 000	First assistant to district engineer, District No. 6.
Clark, George G.	Senior highway economist.	5, 000	---	5, 000	Assistant to Chief, Division of Management.
Hogentogler, Chester A.	Senior highway engineer.	5, 000	---	5, 000	In charge investigations of subgrade materials encountered in highway construction, Division of Tests.
Jackson, Frank H.	Senior engineer of tests.	5, 000	---	5, 000	In charge work of nonbituminous section, Division of Tests.
Mayo, Geoffrey W.	Senior highway bridge engineer.	5, 000	---	5, 000	In charge National Park and Forest road work all western districts, working under Dr. Hewes.
Ostrander, Alfred I.	Senior highway engineer.	5, 000	---	5, 000	Assistant to district engineer, District No. 4.
Sourwine, James A.	do.	5, 000	---	5, 000	Engaged on meteorological and hydrographic work, Division of Tests.
Teller, Leslie W.	Senior engineer of tests.	5, 000	---	5, 000	Supervises engineering research laboratory at Arlington Farm, Division of Tests.
Williamson, Arthur V.	Senior highway engineer.	5, 000	---	5, 000	In charge of Federal-aid work in District No. 3.
Hochbaum, H. W.	Senior agriculturist.	5, 000	---	5, 000	In charge, county agriculture agent work, Eastern States.
Hiscox, J. W.	Senior administrative officer.	5, 000	---	5, 000	Chief, office of exhibits.
Lowe, C. D.	Senior extension animal husbandry.	5, 000	---	5, 000	Specialist on animal husbandry extension work.
Gapen, Charles E.	Senior administrative officer.	5, 000	---	5, 000	Chief of press service.
Fleming, John R.	Special agricultural writer.	5, 000	---	5, 000	Prepares special interpretative articles on agriculture.
Rand, Frederick V.	Senior pathologist.	5, 000	---	5, 000	Editor, Cooperation with Biological Abstracts.
Westgate, John M.	Principal agronomist.	4, 800	200	5, 000	Director, Hawaii experiment station.
Kincer, Joseph B.	Senior meteorologist.	5, 000	---	5, 000	Senior meteorologist in charge of Division Climate and Crop Weather.



1 U.S. Dept. of agriculture.  
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